COMMONWEALTH MYCOLOGICAL INSTITUTE

REVIEW OF MEDICAL AND VETERINARY MYCOLOGY

VOL. II 1957 PART 10

2209. COUTELEN (F.), COCHET (G.), BIGUET (J.), MULLET (S.), DOBY-DUBOIS (M.), & DEBLOCK (S.). **Contribution à la connaissance épidémiologique et mycologique des teignes infantiles de Tunisie.** [Contribution to the epidemiological and mycological knowledge of the juvenile tineas of Tunisia.]—*Ann. Parasit. hum. comp.*, 31, 4, pp. 449–469, 1956.

The authors report a study of tinea in schoolchildren in Tunisia, carried out during September and October in 1950 and 1953. In 1950 the study covered the great coastal cities, where of 16,381 Muslim children examined 7·06 per cent. were affected. Of these, 70·18 per cent. had 'trichophyties' (*Trichophyton violaceum* in nearly 98 per cent. of cases, the remainder being *T. tonsurans*), 24·89 per cent., had favus (*Achorion* [*T.*] *schoenleini*), and 4·40 per cent. had both.

In 1953 the study covered 18 towns and villages of the interior. Of 7,330 Muslim children examined, this time more thoroughly, 17·09 per cent. had tinea. Of these, 76·38 per cent. had 'trichophyties', 20·83 per cent. had favus, and 1·91 per cent. had both.

That the incidence of tinea was much higher in the interior is explainable partly by the greater care spent in the second survey, but mostly by the superior medical organization in the coastal cities. The higher incidence of 'trichophyties', compared with 'favus', is apparent in both surveys.

In 1953, 287 European schoolchildren were examined, of whom none were infected. Of 121 Jewish schoolchildren eight had tinea.

2210. RAQUET (D. F.). **Prophylaxie des teignes scolaires au Maroc.** [Prophylaxis of tineas among Schoolchildren in Morocco.]—*Maroc méd.*, 35, 377, pp. 947–960, 1956.

This is an exhaustive survey of the epidemiology, prophylaxis, and therapy of tinea (*Trichophyton* spp.) among Moroccan schoolchildren [2, No. 1697], with special reference to the inhabitants of Meknes. In addition to general hygienic precautions, the methods of treatment comprise the local application of medicaments (of which salicylated vaseline is the cheapest and has proved the most efficaceous) and epilation by X-rays or thallium acetate [see next entry].

2211. CHARBONNEAU (P.) & RAQUET (D. F.). **Épilation des teigneux par l'acétate de thallium (54 cas.)** [Epilation of tinea Patients with thallium acetate (54 cases).]—*Maroc méd.*, 35, 377, pp. 961–963, 1956.

Of 54 children aged between seven and 15 who were treated against [unspecified] tineas with a single dose of thallium acetate (7·5 mg. per kg. body weight) at Fez, Morocco [see preceding entry], 30 responded favourably, 15 showed moderate improvement, and nine failed to benefit.

2212. LEINBROCK (A.). **Die Kopfpilzerkrankungen und ihre Behandlung.** [Fungal diseases of the scalp and their treatment.]—*Strahlentherapie*, 98, 1, pp. 155–168, 1955.

This is a comprehensive review and critical discussion of recent contributions

to the literature on the therapy of tinea capitis (*Microsporum* and *Trichophyton* spp.). Combined X-ray and thallium epilation [2, No. 1374] followed by local treatment with iodine- or sulphur-containing preparations is regarded as the method of choice.

2213. Lyck. **Beitrag zur Behandlung von Dermatomykosen bei Ekzematikern.** [Contribution to the treatment of dermatomycoses in Eczema Patients.]—*Z. Haut-u. Geschlechtskr.* 20, 4, pp. 117–118, 1956.

Promising results are reported from Krefeld-Uerdignen, Germany, in the treatment of seven patients (mostly women) suffering from eczema and superinfection by *Epidermophyton* spp. with scheroson-F-compositum (1 per cent. hydrocortisone-acetate ointment with a 1 per cent. admixture of the bactericidal hexachlorodioxyphenylmethane).

2214. Kuhn (Beatrice H.). **Tinea capitis due to Microsporum audouini : treatment with new improved salundek ointment and salundek lotion.**—*Sth. med. J.*, 49, 10, pp. 1122–1124, 1956.

Of 13 patients treated for tinea capitis (*Microsporum audouini*) with new improved salundek [2, No. 1971] ointment (containing 3 per cent. salicylanilide, 4 per cent. mono- and dichlorosalicylanilides, 2 per cent. undecylenic acid, and 10 per cent. zinc undecylenate in a carbowax base), during an investigation covering the period from August 1952 to August 1955 at Charleston, West Virginia, 91·6 per cent. were cured in an average period of 12·3 weeks. Of 28 treated with salundek lotion, 92·8 per cent. were cured in 16·7 weeks.

From a summary of the results reported by other authors (presented in tabular form), it is concluded that the most satisfactory preparations available at present are asterol and the salicylanilides.

2215. Gade (Margrethe). **Genoptraeden af microspori i Danmark.** [Recurrence of microsporosis in Denmark.]—*Ugeskr. Laeg.*, 118, 19, pp. 539–543, 2 figs., 1956. [*B.H.*, 31, p. 1103.]

The author reports that from 1946 to 1955 sixty-seven cases of microsporosis were examined at the Dermatological Department of the Finsen Institute, Copenhagen, 66 being caused by *Microsporum lanosum* [*M. canis*] and one by *M. audouini*. Since the last reported outbreak in 1907 the disease has been so rare in Denmark as to be forgotten, and the author compares the present outbreak, which has increased from year to year, with similar outbreaks recently recorded in Germany, England, and the U.S.A.

2216. Joseph (H. L.) & Halde (C.). **Tinea capitis due to Trichophyton tonsurans. Incidence, diagnosis and epidemiology in the San Francisco Bay Region.**—*Calif. Med.*, 83, 5, pp. 371–375, 4 figs., 1955.

In connexion with a five-year (1950–54) study of tinea capitis caused by *Trichophyton tonsurans* in the San Francisco Bay area of California, information is summarized on the clinical manifestations, diagnosis, epidemiology, and therapy of the complaint.

2217. Spada (C.). **Le infezioni dermatomicetiche miste.** [Mixed infections by dermatophytes.]—Reprinted fron *Rass. med. Sard.*, 3–4, 26 pp., 1955.

The author gives details of the case of a 17-year-old girl examined at the Dermatological Clinic, Cagliari, Sardinia, in 1954, with infection of the scalp by *Trichophyton violaceum* and of the nails of the second and third fingers of the right hand and the third finger of the left hand by *T. tonsurans*.

He fully supports Lewis and Hopper's division of such mixed infections into the three categories of 'concurrent', 'combined', and 'consecutive' [1, No. 120]. He states that *T. violaceum* is present in about 40 per cent. of cases of mixed infection, and is often associated with 'faviforme' species which are sometimes regarded as being identical with it.

2218. Torres (Gladys) & Georg (Lucille K.). **A human case of Trichophyton gallinae infection. Disease contracted from Chickens.**—*Arch. Derm. Syph., Chicago*, 74, 2, pp. 191–197, 2 figs., 1956.

From the University of Puerto Rico School of Medicine the authors describe a case of *Trichophyton gallinae* infection affecting the scalp of a four-year-old girl. Close inspection revealed that one of the five fowls owned by the family was infected. The strain of the fungus isolated from the child was identical with that cultured from scrapings from the comb of the affected bird.

2219. Kaplan (W.), Georg (Lucille K.), & Fosnaugh (C. J.). **Isolation of the dermatophyte Microsporum gypseum from a Horse with ringworm.**—*J. Amer. vet. med. Ass.*, 129, 8, pp. 381–383, 1956.

From the Communicable Disease Center, Atlanta, Georgia, the authors report a case of *Microsporum gypseum* infection of a 20-month-old horse at Zanesville, Ohio, causing patches of alopecia with dry, scaly skin. Other horses in close association were not affected. This is the first record of this infection from the United States.

2220. Young (Augusta M.). **Chronic diffuse ringworm due to Microsporum canis in a Dog, involving two claws.**—*Vet. Rec.*, 68, 1p. 606–607, 1956.

In December 1953 an 18-month-old male Irish Terrier was presented for examination with a bare patch on the forehead. This was incorrectly diagnosed and treated as demodectic mange. In January 1954, following the development of ringworm in human contacts, the infection was correctly diagnosed as *Microsporum canis*. Thick, flat, greyish crusts were present against the skin from the back of the neck to the root of the tail. There was good growth of long hair through these crusts, the removal of which revealed numerous short hairs. The infected hairs fluoresced under Wood's light, as did two infected claws, in which parallel-running hyphae and spores in a mosaic arrangement were demonstrable by examination of shavings in caustic potash. The dog was destroyed in July 1955 after the generalized infection had failed to respond to vigorous treatment with fungicidal preparations. The chronic course of infection in this case reported from the Meath Hospital, Dublin, is in marked contrast with the usual course of canine infection, which is acute and inflammatory, commonly ending in complete recovery after two or three months.

2221. Vrtiak (J.) & Zapletal (J.). **Trichophyton faviforme discoides. Pôvodca oparu lysivého u hovädzieho dobytka.** [*Trichophyton faviforme discoides* infection in Cattle.]—*Vet. Čas.*, 5, pp. 204–228, 1956. [German and Russian summaries.] [*V.B.*, 27, No. 412.]

The authors isolated *Trichophyton verrucosum* var. *discoides* [*T. discoides*] from cattle with ringworm on 21 farms in Czechoslovakia, the incidence being highest in young animals. Details are given of cultivation in chick embryos, egg-shell membranes, carrots, potatoes, and faeces.

2222. Fragner (P.) & Krauskopf (J.). **Trichophyton gypseum Bodin 1902 var. quinckeanum Quincke 1885, Blanchard 1896, puvodce epidemie pri zpracovani**

slamy. [*Trichophyton gypseum* Bodin 1902 var. *quinckeanum* Quincke 1885, Blanchard 1896, the cause of epidemic infection in processing straw.]—*Čsl. Epidemiol., Mikrobiol., Immunol., Prague*, 5, 1, pp. 47–49, 1956.

The authors report an outbreak of trichophytosis (*Trichophyton gypseum* var. *quinckeanum* [*T. quinckeanum*]) in workers occupied in processing straw which had been infested with infected mice.

2223. Samel (E.). **Dermatomykosen, ein therapeutisches Problem?** [Dermatomycoses, a therapeutic problem?]—*Z. Haut-u. Geschlechtskr.*, 19, 4, pp. 119–120, 1955.

Discussing the urgent need for an effective antimycotic to control the steady increase of fungal infections of the hands and feet (and more especially the nails) due to *Epidermophyton* Kaufmann-Wolf [*Trichophyton interdigitale*] and other species in Germany, the author reports on his favourable experience in the therapy of a small series of cases with phebrocon-serol solution. Phebrocon contains dioxyphenylhexane (hexylresorcin), chloromethylisopropylphenyl, and *para*-oxybenzoic acid esters.

2224. Rimbaud (P.), Rioux (J. A.), & Caron (J.). **Propriétés antifongiques de la dichloroxyquinaldine. Étude expérimentale in vitro.** [Anti-fungal properties of dichloroxyquinaldine. Experimental study *in vitro*.]—*Montpellier méd.*, 49, 5, pp. 498–502, 6 figs., 1956.

At the Faculty of Medicine, Montpellier, France, sterosan (dichloroxyquinaldine) at a concentration of 5 gm. per mille totally inhibited the growth of a number of dermatophytes in pure culture, including *Trichophyton rubrum*, *T. violaceum*, *Epidermophyton inguinale* [*E. floccosum*], and *Achorion* [*T.*] *schoenleini*. Of the yeasts tested, *Candida albicans*, *C. krusei*, and *Torulopsis* [*Cryptococcus*] *neoformans* also succumbed to the compound at the same strength, which did not, however, prevent the development of *Candida tropicalis*, *Rhodotorula* sp., and *Geotrichum* sp.

2225. Volini (Marguerite), Stubbs (R. K.), & Ercoli (N.). Trypanocidal, antibacterial, and antifungal effectiveness of monothiouronium derivatives.—*Antibiot. & Chemother.*, 6, 10, pp. 603–606, 1956.

In experiments at the Armour Laboratories, Chicago, the minimum concentrations of tetradecylisothiouronium chloride required to inhibit the growth on 'sporulating broth' of *Trichophyton mentagrophytes*, *Microsporum canis*, and *Candida albicans* were 3·9, 3·9, and 7·8 μg. per ml., respectively. The corresponding dosages for cocoisothiouronium chloride were 3·9, 6·2, and 6·2μg., and for octylisothiouronium chloride 15·6, 62·5, and 125 μg., respectively.

2226. Jules (L. H.), Faust (J. A.), & Sah Yun (M.). **Derivatives of 3-, 4-, and 5-phenylsalicylamides.**—*J. Amer. pharm. Ass.*, 45, 5, pp. 277–281, 1956.

In the course of studies at the Sahyun Research Laboratories, Santa Barbara, California, on the preparation and characterization of 66 derivatives of 3-, 4-, and 5-phenylsalicylamides, *N*-butyl-3-phenylsalicylamide and *N*-(4-hydroxyphenyl)-3-phenylsalicylamide [see next entry] were found to be the most active antimycotics of this series. The former exerts a powerful measure of activity against *Trichophyton mentagrophytes* and *Microsporum audouini* and the latter inhibits the growth of *Candida albicans in vitro*.

2227. Pilcher (K. S.) & Hamilton (A. Y.). **Antifungal activity of a new group of salicylamide derivatives for dermatophytes. II. The relation of chemical structure to activity.**—*Antibiot. & Chemother.*, 6, 10, pp. 573–584, 1956.

At the Department of Bacteriology and Hygiene, Oregon State College, Corvallis, a group of 33 salicylamide derivatives was tested (in comparison with sodium undecylenate) for fungistatic activity against *Trichophyton mentagrophytes* and *Microsporum audouini* [see preceding entry]. The six most effective were *N*-butyl-3-phenyl, *N*-phenyl-3-phenyl, *N*-(4-hydroxyphenyl)-3-phenyl, 5-bromo-3-phenyl, 5-chloro-3-phenyl, and 3-cyclohexyl salicylamides, all of which markedly inhibited growth at a concentration of 10 μg. per ml. compared with 20 for sodium undecylenate.

The activity of all the foregoing compounds was reduced in the presence of plasma proteins. In the case of *N*-phenyl-3-phenylsalicylamide inactivation was complete, but *N*-(4-hydroxyphenyl)-3-phenyl and *N*-butyl-3-phenyl continued to function at eight- to 16-fold higher concentrations and are considered, for this and other reasons, to be the best antimycotics of the group.

Of 11 of the salicylamides tested for fungicidal effect on mycelial suspensions of *T. mentagrophytes*, *N*-(4-hydroxyphenyl)-3-phenyl and 5-bromo-3-phenyl were the most active, but a period of several hours was required for complete sterilization.

2228. Barnes (R. A.) & Gerber (Nancy N.). **The antifungal agent from Osage Orange wood.**—*J. Amer. chem. Soc.*, 77, 12, pp. 3259–3262, 1955.

The wood of the exceptionally durable *Toxylon pomiferum* contains approximately 1 per cent. 2′ 3′ 4, 5′-tetrahydroxystilbene, which completely inhibited the growth of certain fungi, including *Microsporum canis* and *Trichophyton mentagrophytes*, in laboratory experiments at the School of Chemistry, Rutgers University, New Brunswick, New Jersey.

2229. Ciferri (R.), Batista (A. C.), & Campos (S.). **Taxonomy of Piedraia hortai and systematic position of the Piedraiaceae family.**—Publication No. 45, Institute of Mycology, Recife, Pernambuco, Brazil, 9 pp., 9 pl., 1956.

Following cultural studies the authors proposed that *Piedraia paraguayensis*, *P. venezuelensis*, *P. sarmentoi*, *P. surinamensis*, *P. colombiana*, and probably *P. javanica* should all be placed under the one species *Piedraia hortai*. Following Viégas [1, No. 591] they propose the erection of a new family, the Piedraiaceae, which they, however, would place under the Myriangiales and not the Plectascales. They give a Latin diagnosis for the family and an English diagnosis for the genus.

2230. Neill (J. M.), Castillo (C. G.), & Pinkes (A. H.). **Serological relationships between fungi and bacteria. I. Cross-reactions of Sporotrichum schencki with pneumococci.**—*J. Immunol.*, 74, 2, pp. 120–125, 1955.

At the Cornell University Medical College, New York, suspensions of *Sporotrichum schencki* were tested for agglutination with a wide range of rabbit pneumococcal antisera, and the soluble *Sporotrichum* antigen was tested for precipitation by the same sera. Pneumococcal suspensions and dilutions of purified pneumococcal S substance were tested against *Sporotrichum* antisera by agglutination and precipitation, respectively. Positive reactions occurred in these tests at serum concentrations considerably higher than those obtained with homologous antigens, and cross reactions were observed between *S. schencki* and pneumococcal antisera of types 32, 31, 23, 22, 9, and 10 in descending order of magnitude. Cross reactions between *Sporotrichum* antisera and pneumococcal antigens of types 32, 31, 23, 22, and 10 were observed, but no reactions occurred between these sera and rough pneumococci.

2231. Almeida (F. de), Sampaio (S. A.), Lacaz (C. da S.), & Fernandes (J. de C.). **Dados estatistiscos sobre; a esporotricose analise de 344 casos.** [Statistical data

on sporotrichosis; analysis of 344 cases.]—*An. bras. Derm. Sif.*, 30, 1, pp. 9–12, 1955.

Statistical data are given in respect of 344 cases of sporotrichosis [*Sporotrichum schencki*] observed in the State of São Paulo, Brazil. Ninety-three per cent. of cases occurred in urban areas, and the lymphatic and epidermal forms, affecting principally the face and upper extremities, predominated. Infection followed injury in 39 of the cases, thorns (9) and straw (4) being most frequently implicated.

2232. Shintani (J.), Florsheim (W.), & Wilson (J. W.). **Radioautographic study of experimental sporotrichosis after the administration of radioactive iodine.**—*J. invest. Derm.*, 26, 2, pp. 137–142, 1956. [*Bull. Signalet. C.N.R.S.*, 17, No. 141160.]

Intratesticular injection of *Sporotrichum schencki* into mice produced a local granulomatous reaction with necrotic areas containing spores. A radioautographic study of such mice after treatment with radio-active iodine and potassium iodine revealed no selective localization of these substances in the lesions.

2233. Starr (G. F.), Dawe (C. J.), & Weed (L. A.). **Use of periodic acid-Schiff stain in identification of pathogenic fungi in tissues.**—*Amer. J. clin. Path.*, 25, 1, pp. 76–83, 4 figs., 1955.

Sections from 54 pulmonary lesions were examined at the Mayo Clinic Rochester, Minnesota. Two cases were proved culturally and microscopically to be histoplasmosis [*Histoplasma capsulatum*]. Two others were culturally negative but histological preparations revealed what appeared to be *H. capsulatum* in one case and *Coccidioides immitis* in the other. No evidence of mycotic infection were seen in sections of the remaining 50, which consisted of 22 solitary caseous lesions, 21 cases of multiple non-cavitating granuloma, and seven cavitating caseous granulomas. Sections cut from the original paraffin blocks of these cases were examined by the periodic acid-Schiff (P.A.S.) technique. The fungi were seen in the known positive sections and, in one other section only, *H. capsulatum* was found.

Preparations from 31 cases from which fungi had been cultured were then examined in the same way. Previously no organisms had been seen in sections. Examination using the P.A.S. technique demonstrated *H. capsulatum* in the tissues of five of the seven culturally positive cases, *Blastomyces dermatitidis* in five out of six; *Sporotrichum schencki* in fourteen, and *Cryptococcus neoformans* in the only case from which it was cultured. Re-examination of haematoxylin and eosin-stained preparations showed that the organisms were visible in twelve of the 21 cases in which they were seen when stained by P.A.S. This method is claimed as a useful adjunct to diagnosis, not as an alternative to cultural examination.

2234. Ehrlich (R.). **Technique for microscopic count of microorganisms directly on membrane filters.**—*J. Bact.*, 70, 3, pp. 265–268, 1 fig., 1955.

The author describes a method successfully used for the quantitative detection of bacterial growth in liquid media, and apparently adaptable for use with yeast-like fungi.

Membrane filters are stained in alcoholic fuchsin and stored in sterile water before use. They are then used with a Seitz microfilter apparatus having an interchangeable filter insert. After filtration, suction is maintained until the membrane is dry, after which a drop of bacterial stain is placed on it and filtered off after 2–5 minutes. The filter is then removed, placed on a slide, and

dried for 10 minutes at 60–70° C., after which a drop of immersion oil is placed on it to make it transparent. Counting is performed under the microscope.

2235. Kaden (R.). **Pilzanastomosen im Phasenkontrastmikroscop.** [Fungal anastomoses under the phase-contrast microscope.]—*Mycopathologia*, 7, 3/4, pp. 328–332, 13 figs., 1956.

After a discussion of the usefulness of hyphal anastomoses in the identification of dermatophytes [cf. 1, No. 2349] the author reports that the process can be observed more clearly by phase-contrast microscopy.

2236. Seeliger (H.). **Zur Anwendungsmöglichkeit der Präcipitation im Agar-Gel bei der O-Antigenanalyse von Bakterien und Pilzen.** [On the possibility of using agar-gel precipitation in the analysis of O antigens in bacteria and fungi.] —*Z. Hyg. InfektKr.*, 141, pp. 110–121, 1955.

At the Institute of Hygiene, Friedrich-Wilhelm University, Bonn, Germany, the authors used the routine bacteriological agar-gel precipitation technique of Oudin, Elek, and Ouchterlony in a study of the antigenic constitution of a number of fungal pathogens. The results were in close agreement with those obtained by the methods of agglutination and complement fixation.

2237. Forster (R. A.). **A useful method for the addition of antibiotic to culture media.**—*J. med. Lab. technol.*, 13, 5/6, pp. 417–418, 1 fig., 1956.

From the Department of Mycology, University of Leeds, the author describes a method for incorporating antibiotics in an agar medium.

A solution of penicillin and streptomycin, made up in distilled water and sterilized by passing under suction through a Maassen filter, is delivered by burette into tubes containing 4 ml. of Sabouraud's agar at 45° C., the final antibiotic concentration being 20 units of penicillin and 40 of streptomycin per millilitre of medium. Once the apparatus is set up, tubes can be dealt with at a rate of 200–250 per hour. The treated agar is stored in a refrigerator.

2238. Emmons (C. W.). **Mycoses of animals.** In Brandly (C. A.) & Jungherr (E. L.). (Edit.), *Advances in veterinary Science*, 2, pp. 47–63, 1955. (Academic Press, N.Y.)

In this most useful review (which concludes with a list of 140 references) the author briefly summarizes recent work on the chief mycoses of animals.

2239. **The Merck Veterinary Manual,** 1398 pp., 1955. (Merck & Co. Inc., Rahway, N.J., U.S.A.) $7.50.

This book includes anonymous but up-to-date and authoritative sections on the principal mycoses of farm and domestic animals: systemic fungus infections (pp. 458–471); dermatomycoses (1009–1012); aspergillosis, thrush, and favus of poultry (1147–1149); fungal toxicoses (stachybotryosis, aspergillosis, and mouldy-corn toxicoses) (1087–1092); ergotism (*Claviceps purpurea*) (1084–1085); and paspalum staggers (*C. paspali*) (1081–1082).

2240. Jackson (J. R.) & Karnauchow (P. N.). **Mucormycosis of the central nervous system.**—*Canad. med. Ass. J.*, 76, 2, pp. 130–133, 3 figs., 1957.

From the Ottawa General Hospital the authors report a case of cerebral mucormycosis in a 20-day-old female infant with congenital pulmonary stenosis, patent foramen ovale, and patent ductus arteriosus, who was receiving antibiotic therapy for pneumonia. This is believed to be only the second case recorded in Canada and the youngest observed anywhere.

2241. Halloran (Patricia O'C.). **A bibliography of references to diseases of wild mammals and birds.**—*Amer. J. vet. Res.*, 16 (No. 63, Part 2), pp. xii+465, 1955.

This exhaustive bibliography, which is arranged systematically according to the hosts and the parts of the body infected, includes a number of references to mycotic diseases, but these are not easy to locate because there is no pathogen index.

2242. Beneke (E. S.). **Medical Mycology laboratory manual.**—186+v pp., 13 pl. (11 col.), 34 figs., Burgess Publishing Company, Minneapolis, 1957. $4.00.

This useful manual covers all aspects of an elementary course in medical mycology. Introductory sections deal with the characteristics of fungi, common contaminants, and a number of standard mycological laboratory procedures. These are followed by a concise consideration, according to a standardized pattern, of the principal mycoses of man grouped as superficial and deep (or systemic) infections. The illustrations are of reasonable quality and are informative. Each section is supplemented by a number of selected references to the literature and a glossary of mycological terms is appended.

2243. Ainsworth (G. C.). **The dispersal of fungi pathogenic for man and animals.** In Horton-Smith (C.) (Edit.), *Biological aspects of the transmission of disease*, pp. 1–5, 1957. (Oliver and Boyd, London.) 21*s*.

Attention is drawn to the correlation between the geographical distribution of mycoses of man and animals and the methods by which the pathogens are dispersed, e.g. endogenous infections such as actinomycosis (*Actinomyces israeli*) and moniliasis (*Candida albicans*) tend to have a wider and more even geographical distribution than have exogenous infections.

2244. Sarkisov (A. H.), Kapustin (V. F.), Kvashnina (Mme E. J.), & Koroleva (Mme V. P.). Атлас грибов патогенных для сельскохозяйственных животных и птиц. [Atlas of fungi pathogenic to farm animals and birds.]—158 pp., 3 col. pl., 246 figs., State Publisher of Agricultural Literature, Moscow, 1953. Roubles 10.90.

In this atlas, the first of its kind to be published in the U.S.S.R. and intended for students of agriculture, veterinary science, and medicine, fungi pathogenic to farm animals and birds and the symptoms induced are illustrated by an informative series of annotated illustrations of high quality. Fungi in general are briefly dealt with in the introduction (pp. 5–10).

2245. Sarkisov (A. H.). Микотоксикозы (грибовые отравления). [Mycotoxicoses (fungal poisonings).]—216 pp., 5 col. pl., 72 figs., 16 graphs, State Publisher of Agricultural Literature, Moscow, 1954. Roubles 7.80.

The information contained in this unique book on mycotoxicoses, which are stated to be causing great losses among farm animals in the U.S.S.R., is based on literature published in the U.S.S.R. and abroad and on the results of experiments at the Pan-Soviet Scientific Research Laboratory for the study of Poisonous Fungi and at various scientific medical centres of the U.S.S.R. Academy of Sciences. The book, intended mainly for specialists in animal husbandry, includes descriptions of ergotism (*Claviceps purpurea*) and clavicepstoxicosis [paspalum staggers) (*C. paspali*); stachybotryotoxicosis (*Stachybotrys alternans*) [1, No. 429]; dendrochyotoxicosis of horses (a fatal poisoning resulting from eating straw infected with *Dendrochium toxicum*); fusariotoxicosis (*Fusarium graminearum*) [*Gibberella zeae*]; and toxicoses due to feeding to cattle grain which has overwintered in the field under snow and become

infected with diverse moulds (which are listed) and particularly *F. sporotrichioides* (which is said to be more toxic to man than to animals). Each disease is dealt with under the following headings: determination of the disease, historical survey, etiology, pathogenesis, clinical picture, pathomorphology, differential diagnosis, treatment, prophylactic measures, and control. Numerous illustrations are provided, some deriving from the Atlas of Pathogenic Fungi [see above, No. 2244].

It is suggested that mycotoxicoses would be best controlled by organized preventive measures carried out jointly by agronomists and veterinarians.

2246. Bravo (J.). **Estudios de las micosis más frecuentes en medio tropical.** [Studies of the most prevalent tropical mycoses].—*Med. colon.*, 28, 5, pp. 329–363, 1956.

Information is presented on the identification by standard techniques of the fungi responsible for human mycoses in the tropics, and on the diagnosis by direct examination, cultural methods, and animal inoculation of the diseases which they cause.

2247. Kirk (R.) & Morgan (H. V.). **The superficial mycoses.**—*J. trop. Med.* (*Hyg.*), 60, 1 & 2, pp. 1–6, 38–45, 8 figs., 1957. [*B.H.*, 32, p. 575.]

This article presents a concise account of the superficial fungus infections of the skin encountered in the tropics. The introduction includes a brief review of the pathology and diagnosis of these infections, the principles of treatment, and the occurrence of mycid symptoms. Very brief specific descriptions, bearing chiefly on clinical features and treatment, are given of the following infections: pityriasis versicolor; tinea nigra; erythrasma; piedra; trichonocardiosis axillaris; otomycosis; tinea capitis, corporis, cruris, barbae, pedis, and imbricata; otomycosis; chromoblastomycosis; and moniliasis.

2248. Borelli (D.). **Cenni di micopatologia venezuelana.** [Aspects of Venezuelan mycopathology.]—*G. ital. Derm. Sif.*, 117, 5, pp. 507–526, 18 figs., 1956. [French, English, and German summaries.]

A history of mycopathological studies in Venezuela is followed by a critical survey of the existing situation regarding fungal diseases [cf. 1, No. 2220]. South American blastomycosis (*Paracoccidioides brasiliensis*), some 150 cases of which have been proved, is the most serious medico-mycological problem in the country. The fungi implicated in the 80 or so known cases of chromoblastomycosis [2, No. 722] are *Cladosporium carrionii* [2, No. 1237], *Fonsecaea* [*Phialophora*] *pedrosoi*, and *F.* [*P.*] *compacta* (two strains isolated by H. Campins). Cases of histoplasmosis (*Histoplasma capsulatum*) [2, Nos. 784, 1829] now number 20. One autochthonous case of North American blastomycosis (*Blastomyces dermatitidis*) and one of pulmonary and cerebral cladosporiosis (*C. trichoides*) [cf. 2, Nos. 931, 1763] have been recorded: *Cryptococcus neoformans* has been isolated from five of the six known cases of cryptococcosis, and coccidioidomycosis (*Coccidioides immitis*) is endemic in Lara State, where it has been diagnosed twice.

2249. Schwarz (J.) & Baum (G. L.). **Primary cutaneous mycoses.**—*Arch. Derm. Syph., Chicago*, 71, 2, pp. 143–149, 1955.

From the Laboratory of Mycology, Cincinnati General Hospital, and the Clinical Laboratories, Jewish Hospital, the authors state that infectious granulomatous diseases show a point of entrance and a primary sore, followed by lymphangitis and regional lymphadenitis.

Cutaneous infections in blastomycosis [*Blastomyces dermatitidis*], coccidioido-

mycosis [*Coccidioides immitis*], sporotrichosis [*Sporotrichum schencki*], actinomycosis [*Actinomyces israeli*] and chromoblastomycosis are described. Other deep fungus diseases are stated to originate most frequently in the lungs.

2250. Smith (D. T.). **Problems in the diagnosis of pulmonary mycoses.**—*Tex. J. Med.*, 51, 12, pp. 787–792, 1 map, 1955.

This discussion of the problems involved in the diagnosis of pulmonary mycoses is presented under the headings of geographic history, clinical findings, roentgen-ray findings, skin tests, serologic tests, direct examination, biopsy, and cultures. At the clinic of Duke University School of Medicine, Durham, North Carolina [1, No. 1283], these diseases occur in the following order of frequency: actinomycosis (*Actinomyces bovis*) [*A. israeli*], moniliasis (*Candida albicans*), cryptococcosis (*Cryptococcus neoformans*), geotrichosis (*Geotrichum*), nocardiosis (*Nocardia asteroides*), mucormycosis (*Mucor*), and sporotrichosis (*Sporotrichum schencki*). Also included in the survey are aspergillosis (*Aspergillus fumigatus*) and the endemic diseases, coccidioidomycosis (*Coccidioides immitis*), histoplasmosis (*Histoplasma capsulatum*), and blastomycosis (*Blastomyces dermatitidis*).

2251. Drouhet (E.). **Antifongiques et therapeutique des mycoses.** [Antifungal agents and the therapy of mycoses.]—*Sem. hôp. Paris*, 33, 13/2, pp. 843/SP. 143–865/SP. 165, 1957. [179 refs.]

The three main sections of this most useful, well-documented survey deal with antifungal chemicals, antifungal antibiotics (especially nystatin [mycostatin]), and the general lines of therapy for the principal mycoses. In addition, the general characteristics of mycotic infections of man are summarized.

2252. Huppert (M.). **The antifungal activity of a homologous series of parabens. Preliminary studies.**—*Antibiot. & Chemother.*, 7, 1, pp. 29–36, 1957.

After preliminary experiments with a series of homologous parabens, of which the synthesis is described, the hexyl and heptyl esters, which had proved the most active, were compared with and found superior (especially under neutral and alkaline conditions) to sorbic acid, tetramethylthiuram disulphide, and caprylic acid, against representative fungal pathogens. A table records the lowest concentrations of the parabens and caprylic acid possessing activity, in Sabouraud's dextrose agar at pH 5·6, against, *inter alia*, *Microsporum* spp., *Trichophyton* spp., *Epidermophyton floccosum*, *Candida albicans* [cf. 2, No. 1341], *Cryptococcus neoformans*, *Blastomyces*, *Nocardia*, and *Aspergillus* spp. *In vivo* tests are advocated.

2253. Brown (Rachel) & Hazen (Elizabeth L.). **Present knowledge of nystatin, an antifungal antibiotic.**—*Trans. N.Y. Acad. Sci.*, Ser. II, 19, 5, pp. 447–456, 1957.

This useful survey of information on the isolation of mycostatin from *Streptomyces noursei*, its chemical, physical, and biological properties, and therapeutic activity is based on 46 contributions to the literature. The antibiotic specifically inhibits the growth of a wide range of pathogenic and saprophytic fungi and exerts a marked therapeutic influence on mice inoculated with *Cryptococcus neoformans*, *Blastomyces dermatitidis*, *Histoplasma capsulatum*, *Coccidioides immitis*, *Sporotrichum schencki*, and *Candida albicans*. Its prophylactic and therapeutic effect on oral moniliasis in mice is particularly remarkable.

Mycostatin is considered to be a valuable and specific treatment for the various forms of moniliasis affecting man, since it is non-toxic and does not promote the development of resistant strains of *C. albicans*.

2254. Piantoni (L.). **Azione del cortisone sulle infezioni sperimentali da lieviti asporigeni avirulenti e virulenti.** [The action of cortisone on experimental infections with avirulent and virulent asporogenous yeasts.]—Reprinted from *G. malatt. infett. e parassit.*, 7 (*1955*), 47 pp., 10 figs., 1955. [French, English, and German summaries.]

At the Institute of Anatomy and Pathological Histology, Milan University, cortisone treatment was without effect on the course of experimental infection in rats and rabbits with the apathogenic fungi *Torulopsis rotundata*, *T. utilis*, and *Rhodotorula sannieri*, but it enhanced the virulence of *Candida albicans*.

[The results of other similar experiments with *T. utilis* and also with *Debaryomyces* [*Cryptococcus*] *neoformans*, *Actinomyces* [*Streptomyces*] *albus*, *A.* [*S.*] *madurae*, and *Proactinomyces* [*Nocardia*] *asteroides* are reported in *Biol. latina*, 8, 4, pp. 841–907, 997–1068, 1095–1117, 1129–1137, 1955.]

2255. Pine (L.) & Howell (A.). **Comparison of physiological and biochemical characters of Actinomyces spp. with those of Lactobacillus bifidus.**—*J. gen. Microbiol.*, 15, 3, pp. 428–445, 1 fig., 2 graphs, 1956.

At the National Institute of Dental Research, National Institutes of Health, Bethesda, Maryland, 11 of 12 *Actinomyces* strains, described as *A. israeli*, *A. israeli*-like, or *A. naeslundi*, required carbon dioxide for anaerobic growth, as did 3 strains of *Lactobacillus bifidus* tested. There were however differences between the two genera in respect of sugar metabolism: in fermenting glucose in the presence of carbon dioxide both *L. bifidus* and the *Actinomyces* strains formed lactic, acetic, formic, and succinic acids, but whereas the former produced equal amounts of lactic and acetic acids with only traces of succinic and formic, the latter produced predominantly lactic acid, with only traces of the other three. This work was undertaken to throw more light on the suggestion of Frank and Skinner (*Mycologia*, 46, p. 728, 1954), put forward on morphological grounds, that *L. bifidus* should be transferred to the genus *Actinomyces*.

2256. Quittè (Christine). **Strahlenpilzkrankheit und Arbeitsunfall.** [Actinomycosis and occupational accidents.]—*Med. Msch., Stuttgart*, 17, pp. 652–655, 1956.

This is a brief general review of the factors to be taken into account in assessing claims for compensation arising from actinomycosis (*Actinomyces israeli* and *Nocardia asteroides*) alleged to have been caused by injury at work [cf. 2, No. 1749].

2257. Mariat (F.). **Action in vitro de la 4-4'diaminodiphényl sulfone sur les actinomycètes aérobies pathogènes.** [Action *in vitro* of 4-4'diaminodiphenyl sulphone on pathogenic aerobic actinomycetes.]—*C. R. Acad. Sci., Paris*, 244, 25, pp. 3095–3097, 1957.

The growth in a synthetic medium of some strains of *Nocardia brasiliensis* and all of *Streptomyces madurae* [2, No. 1746] tested was inhibited by 4-4' diaminodiphenyl sulphone at 15 μg. per ml. and upwards.

2258. Bates (M.) & Cruickshank (G.). **Thoracic actinomycosis.**—*Thorax*, 12, 2, pp. 99–124, 32 figs. (3 col.), 1957. [BA 32: 958]

This important joint contribution from the North Middlesex Hospital and the Leicester Chest Unit, based on a study of 85 cases of thoracic actinomycosis (*Actinomyces israeli*), comprises, *inter alia*, a proposed new classification of the disease; a discussion of its etiology; reports on 11 illustrative cases (one of which yielded *Nocardia asteroides* in pure culture); a section on epidemiology and

pathology; indications for diagnosis on the grounds of clinical symptoms and by bacteriological and radiological procedures; and a survey of current methods of antibiotic and surgical treatment.

The following system of grouping is suggested: primary, including pleuro- and bronchopulmonary and mediastinal; secondary, extensions from abdominal or cervico-facial actinomycosis; metastatic, pyaemia, chest wall, and cardiac; and actinomycosis associated with pulmonary tuberculosis.

2259. Zander (E.) & Barontini (F.). **Über die Aktinomykose des Nervensystems.** [On actinomycosis of the nervous system.]—*Schweiz. med. Wschr.*, 86, 50, pp. 1409–1413, 3 figs., 2 graphs, 1956.

Following a survey of the literature on actinomycosis of the nervous system, the authors present a full report from the Cantonal Hospital, Zürich, of a case in a 37-year-old frontier guard. An apparently complete cure was effected by excision of an abscess from the right temporo-parieto-occipital region and intensive antibiotic therapy (total of 42,000,000 units of penicillin and 119 gm. diazil). Pus from the abscess yielded *Actinomyces israeli* in pure culture.

2260. Decarie (R.), Lauze (S.), & Papineau (L.). **Actinomycose intestinale guérie.** [Intestinal actinomycosis cured.]—*Un. méd. Can.*, 85, 4, pp. 405–406, 2 figs., 1956.

From the Hôpital Notre-Dame, Montreal, the authors report the apparent cure of a case of abdominal actinomycosis [*Actinomyces israeli*] in a 34-year-old male by treatment with penicillin, aureomycin, potassium iodide, and sulphadiazine. Five years later the patient was in excellent health.

2261. Prinsley (D. M.). **Pulmonary actinomycosis. Recovery in a Mongol.**—*Brit. J. Tuberc.*, 51, 1, pp. 40–45, 1 pl., 2 graphs, 1957.

A case of pulmonary actinomycosis (*Actinomyces bovis* [*A. israeli*]), accompanied by an empyema and broncho-pleural fistula, is fully reported from the Middleton Hospital, Ilkley, Yorks, the patient being a 21-year-old male mental defective. A complete cure was effected by means of aspiration and prolonged (10 weeks) treatment with massive doses of penicillin.

2262. Ballenger (C. N.) & Goldring (D.). **Nocardiosis in childhood.**—*J. Pediat.*, 50, 2, pp. 145–169, 15 figs., 1957. [114 refs.] [*B.H.*, 32, p. 577.]

The case of nocardiosis [*Nocardia asteroides*] here reported is of special interest in view of the fact that of 95 published cases only 11 are in the pediatric age-groups. The patient, a negro child, was first treated at the age of five months for a respiratory disorder, diarrhoea, and malnutrition. At nine months, when he was readmitted to hospital with cough, fever, and diarrhoea, he was found to be under-nourished and had general lymphadenopathy and enlargement of spleen and liver. Radiological examination showed bilateral hilar enlargement and pulmonary infiltration, and there was a mild degree of hypochromic anaemia and a moderate leucocytosis of the neutrophil-type. The disease progressed, and at two years X-ray examination revealed signs of cavitation or abscess in the lower part of the right upper lobe. Anti-tuberculosis treatment was instituted, although there was no bacteriological evidence of the disease. At 43 months the child was admitted once more with a persistent cough, fever, and dyspnoea. The X-ray picture showed diffuse infiltration throughout the right lung and the posterior part of the left lung, and focal collections of opaque fluid in the left pleura. At this time he had been treated with multiple antibiotics, cortisone, and sulphonamides, but without benefit. He died at 45 months.

At necropsy there were pockets of thick, tenacious, yellow pus in the left pleura, and only one third of the lower lobe of the left lung appeared intact, the remainder of the lung having been reduced to a mass of yellow, friable, suppurative tissue. The right lung showed yellowish nodular consolidation throughout. The liver, spleen, and renal cortex presented multiple abscesses, and much of the thyroid gland was destroyed.

2263. Schardt (W. M.), Unsworth (A. C.), & Hayes (C. V.). **Corneal ulcer due to Nocardia asteroides.**—*Amer. J. Ophthal.*, 42, 2, pp. 303–306, 1956.

Nocardia asteroides was isolated on blood agar from a corneal ulcer which developed in the right eye of a 33-year-old farm-worker in Connecticut following injury from a stone. The fungus was pathogenic to mice and guinea-pigs. A cure was effected by three weeks' therapy with achromycin, administered orally in doses of 250 mg. every six hours and applied locally as an ointment.

2264. Weed (L. A.), Andersen (H. A.), Good (C. A.), & Baggenstoss (A. H.). **Nocardiosis. Clinical, bacteriologic and pathological aspects.**—*New Engl. J. Med.*, 253, 26, pp. 1137–1143, 10 figs., 1955.

Where an intrapulmonary infection fails to respond to antibiotic therapy it is a matter of urgency to determine the causative organism. In illustration of this the authors present, from the Mayo Clinic, University of Minnesota, seven cases of nocardiosis [*Nocardia asteroides*] in which the lungs appeared to be the primary site of infection. This condition responds to sulphonamides, but must be diagnosed early to prevent spread to other organs.

2265. Bianco (A. J.), Johnson (E. W.), Martin (W. J.), & Nichols (D. R.). **Nocardiosis without involvement of the pulmonary or central nervous system.**—*Proc. Mayo Clin.*, 32, 6, pp. 119–123, 2 figs., 1957.

Nocardia asteroides nearly always involves the pulmonary or central nervous system, but three cases are herein reported (one in detail and two briefly) from the Mayo Clinic, Rochester, Minnesota, in which other regions were implicated, the calves of the legs in a 26-year-old male, the knees in a 44-year-old female, and the spleen in a woman aged 26. The first patient was successfully treated by means of surgical drainage combined with intensive sulphonamide (sulphadiazine) therapy.

2266. Snijders (A. S.) & Jansen (B. C.). **A comparison of Streptothrix bovis and Actinomyces dermatonomus.**—*Bull. epiz. Dis. Afr.*, 3, pp. 242–243, 1955. In French: pp. 325–327.

After a detailed comparison of the lesions, morphology, biochemical and staining reactions, and cultural characteristics of *Streptothrix bovis*, the organism of Senkobo skin disease in cattle [see No. 2267–8 below] and *Actinomyces dermatonomus*, responsible for lumpy wool disease in sheep [2, Nos. 1752, 1753], the authors conclude that while morphologically and biochemically the organisms are very similar, *S. bovis* grows more vigorously and has greater viability in stored cultures.

2267. Schulz (K. C. A.). **Mycotic dermatitis (Senkobo skin-disease) of Cattle in the Union of South Africa.**—*Bull. epiz. Dis. Afr.*, 3, pp. 244–261, 3 figs., 1955. [French summary, pp. 328–329.]

Mycotic dermatitis [*Streptothrix bovis*: see above] of cattle in the Union of South Africa is described in detail. There are various sites of predilection, including the back, dewlaps, neck, body, the lower extremities, and the areas round the muzzle, nose, face, eyes, udder, and the brush of the tail. The earliest symptoms so far to be recorded were marked lacrymation and a

secretion from the nostrils, followed by skin eruption. The condition resembles in its early stages an eruptive and later an exudative eczema, with marked thickening of the skin in the more advanced cases, principally due to pronounced crust and scab formations. Subsequently the small elevations increase in size and become confluent, forming thick, irregular scab and wart-like structures, at first firmly attached to the subjacent tissue but later fairly easily removed. The affection does not seem to interfere with the general health of the animal except where large areas of skin become affected, when there is gradual loss of condition usually leading to cachexia. The morphology of the organism in histological section closely resembles that in cutaneous streptothricosis of cattle as described by Hudson from Kenya [*Proc. R. Soc. Med.*, 30, 1457] and in lumpy wool of sheep [*Actinomyces dermatonomus*; see above]. The lamellar structure of the scab together with the presence of the organism make for ready distinction from the lumpy skin disease. The condition, which is only of minor importance under ranching conditions in the Union, is concluded to have close resemblance to mycotic dermatitis described in Australia [1, No. 1092], cutaneous streptothricosis in Kenya and Senkobo disease in Northern and Southern Rhodesia.

2268. Mornet (P.) & Thiery (G.). **Streptothricose cutanée des bovins.** [Bovine cutaneous streptothricosis.]—*Bull. epiz. Dis. Afr.*, 3, pp. 302–324, 19 figs., 1955. [In French. English summary, p. 241.]

From the Federal Laboratory of Animal Husbandry, Dakar, the authors provide a detailed and well-illustrated clinical account of bovine cutaneous streptothricosis as it appears in French West Africa. They consider that further evidence is required to establish beyond doubt that *Streptothrix* [*bovis*] is the responsible pathogen and not a secondary saprophytic invader. Comparing the condition with Senkobo disease [see above], they remark that the latter differs in the localization of the lesions, but that these are identical with the ones classified in the present paper under the ichthyotic [hyperkeratotic] form of cutaneous streptothricosis.

2269. Salazar Leite (A.) & Antunes (Maria M.). **Conservation par lyophilisation des champignons agents étiologiques des teignes.** [Freeze-drying of fungi causing tinea.]—*C. R. Soc. Biol.*, 149, 19/20, pp. 1813–1815, 1955.

A technique in which mycelial suspensions were suspended in a 4 per cent. peptone solution and freeze-dried in ampoules containing 1 ml. of the suspension proved successful for the conservation of *Trichophyton violaceum*, *T. acuminatum* [*T. sabouraudi*], *Microsporum canis*, *Achorion schoenleini* [*T. schoenleini*], and *Trichophyton rubrum* at the Institute of Tropical Medicine, Lisbon. The ampoules were stored at 4° C. There was no loss of viability after two years.

2270. Ajello (L.) & Georg (Lucille K.). **In vitro hair cultures for differentiating between atypical isolates of Trichophyton mentagrophytes and Trichophyton rubrum.**—*Mycopathologia*, 8, 1, pp. 3–17, 4 figs., 1957.

Following Vanbreuseghem's finding [1, No. 1764] that *Trichophyton mentagrophytes* penetrated human hair *in vitro* by means of characteristic wedge-like 'perforating organs' while *Trichophyton rubrum* did not, the authors, at the Communicable Disease Center, Chamblee, Georgia, examined this difference as a possible criterion for the differentiation of strains which could not be distinguished by the usual methods. Forty strains were selected for the study, 13 being assigned without doubt to *T. mentagrophytes* and 12 to *T. rubrum* on the basis of their morphology on Sabouraud's dextrose agar and other media, and their pigmentation on maize meal dextrose agar [1, No. 1491].

Of the remaining 15, 3 were identified by these methods as atypical strains of *T. mentagrophytes*, and 4 as atypical strains of *T. rubrum*, while the remaining 6 could not be assigned to either species with any degree of certainty. The strains were inoculated into Petri dishes containing 25 ml. distilled water, two or three drops of Difco yeast extract and sterilized segments of human hair (previously autoclaved in the dishes for 10 min. at 120° C.). Both typical and atypical strains of *T. mentagrophytes* perforated the hairs, while those of *T. rubrum* did not, and it was possible to assign the six uncertain isolates to one or other of the two species. The manner of growth on hair was therefore accepted as a reliable criterion for distinguishing atypical strains of these species.

2271. Ronchese (F.). **L'examen du Malade à la lumière de Wood.** [The examination of the Patient under Wood's light.]—*Ann. Derm. Syph., Paris*, 84, 3, pp. 252–268, 10 figs., 1957.

Information is presented on the use of Wood's light in the diagnosis of numerous dermatoses, including tineas (*Microsporum* spp. and *Trichophyton tonsurans*) and pityriasis versicolor [*Malassezia furfur*], and a long list of references is appended.

2272. Lurie (H. I.) & Way (M.). **The isolation of dermatophytes from the atmosphere of caves.**—*Mycologia*, 49, 2, pp. 178–180, 1957.

In earlier work (Lurie, H. I. & Borok, R., *Mycologia*, 47, pp. 506–510, 1955) *Trichophyton mentagrophytes* was isolated from soil in caves in the Transvaal. In the present study 42 animals, including monkeys, rats, guinea-pigs and mice, were taken into one of these caves for five hours during which heavy dust was raised. They were then removed to the laboratory and kept under observation, some being killed after six days and others at intervals of two to three days thereafter. Lung material removed under sterile conditions was examined for the presence of dermatophytes by 1) planting tissue fragments on dextrose agar and actidione medium; 2) examination of periodic acid-Schiff stained sections; and 3) intraperitoneal inoculation into mice and inoculation of the above-mentioned media with the supernatant fluid prepared by grinding the lung material in sterile sand, suspending in saline, and allowing to settle. Half of these mice were killed at three, and the remainder at six, weeks, liver and spleen material being examined in section and in culture, as with the original lung material. All primary cultures proved negative. The lung sections were also negative for fungi, though they revealed interstitial pneumonia. Mouse passage yielded *Trichophyton mentagrophytes* from one monkey, one rabbit, two guinea-pigs, two mice, and two rats. *Microsporum gypseum* was likewise obtained from one monkey. It was concluded that the dermatophytes in question can multiply at body temperature *in vivo*.

2273. Levy-Lebhar (G.) & Levy-Lebhar (J. P.). **Les épilations en séries des teignes per la radiothérapie; étude physique, dosimetrie, résultats.** [Routine epilation in tinea by radiotherapy; physical study, dosimetry, results.]—*J. radiol. Électr.*, 36, 9–10, pp. 752–759, 4 figs., 1 graph, 1955.

The authors report that since 1947 they have carried out X-ray epilation of 8,000 children in Casablanca, without mishap. They discuss at some length the factors involved in ensuring that the entire scalp receives the optimum dose.

2274. Wüstenberg (J.). **Der Desinfektionswert verschiedener Grobdesinfektionsmittel bei Epidermophyton Kaufmann-Wolff.** [Disinfectant value of various crude disinfectants on *Epidermophyton* Kaufmann-Wolff.]—*Z. Hyg. InfektKr.*, 141, 5, pp. 460–468, 1955.

A number of commonly used commercial disinfectants were examined for

their activity against *Epidermophyton* (Kaufmann-Wolff) [*Trichophyton interdigitale*] by a method in which fragments of matchstick, infected by being kept in contact with growing cultures of the fungus, were exposed to the disinfectants over a range of concentration for various times (0·25 to 5 per cent.: 5 min., 20 min., 1, 2, 4 and 24 hours), and then slope-cultured with or without previous washing in water for 1 min. Tego 1038 and cresol soap were highly effective, and lysolin and delegol somewhat less so. The author draws attention to the need in Germany for official obligatory testing of disinfectants both for bactericidal and for fungicidal activity. He considers that the method described would be suitable for routine screening for fungicidal activity.

2275. Goldman (L.). **A new method for the rapid identification of dermatophytes.** —*J. lab. clin. Med.*, 44, 4, pp. 655–660, 1 fig., 1954.

In this method, described from the Department of Basic Sciences, Long Island University, New York, a strip of porous paper dyed in aniline black is stuck to an undyed piece of similar paper by means of an aqueous suspension of calcium carbonate containing 10 per cent. gum arabic. The double strip so obtained is then placed with its black side innermost into a phial (28×57 mm.), and autoclaved after the addition of 3 ml. of a medium containing peptone 10 g., glucose 40 g., potassium acid phosphate 1 g., thiamine hydrochloride 5 mg., Tween 80 (sorbitan mono-oleate) 8 ml., Agar 10 g., water 1 l. Inoculum consisting of exudate or scrapings from the lesion is placed on the black surface. The advantages claimed for the method are: 1) growth on the black surface is visible from its earliest stages: 2) any characteristic pigments are seen very clearly on the white paper for three reasons (*a*) because many of them, having the nature of chemical indicators, are intensified by passage diffusion through the calcium carbonate: (*b*) because Tween 80 encourages their diffusion and may possibly stimulate their early production; and (*c*) because of the very favourable conditions for their oxidation; and 3) the whole element can be transferred from the phial to the microscope stage at any stage of development without disturbing the mycelium. The sterile paper impregnated with medium may be dried in a desiccator and stored [still in its phial] for indefinite periods. When needed it is prepared for use by adding a medicine dropperful of boiled water and allowing about 30 min. for a homogeneous gel to form in the pores of the paper. For the study of pigments it is suggested that the chalk layer be omitted: the white paper can then be readily parted from the black and the pigments extracted. Spot tests with various reagents are readily carried out on the white paper.

2276. Gentles (J. C.) & Dawson (Miss C. O.). **The isolation of dermatophytes from clinical materials.**—*Trans. Brit. mycol. Soc.*, 39, 4, pp. 465–474, 1956.

The authors describe studies at the Medical Mycology Section, Bacteriology Department, Glasgow University, in which dermatophytes were isolated by a strictly defined method. The material was collected by J. G. Holmes during a survey of foot ringworm in coal miners in Great Britain [2, No. 2198], the specimens being sent by post, each in a folded slip of paper measuring 5×5 in. In the laboratory the paper was unfolded, and flattened by placing a block of oak wood 5×1×½ in. at each end; the specimen of skin or nail was divided into fragments of 1 mm. diam. Twelve fragments of each specimen were inoculated, four to each of two tubes of malt extract agar containing potassium tellurite and one of plain malt extract agar, incubated at 28° C. It was unnecessary to sub-culture from the former medium; normal colonies developed and remained viable for six weeks or more, and there was the further advantage

that pigment production by *Trichophyton rubrum* was satisfactory on this medium. Bacterial contamination was not troublesome. This was probably because the site was cleaned thoroughly with surgical spirit before the scraping was taken, the specimen dried during transit, and because of the low pH value of the medium. Microscopic preparations were simply classed as positive or negative. Records were kept of the number of colonies of dermatophytes after three weeks, and of the degree and nature of the contamination.

More cases were positive by culture alone than by microscopy alone, but 10 per cent. of the attempts to culture microscopic positives failed. In most cases, failure to isolate was probably due to a previous use of fungicidal ointments or powders. Nearly 14 per cent. of the positive cases were diagnosed by culture but not by microscopy, probably because there was little fungus material present. There was no significant difference between *T. rubrum* and *T. mentagrophytes* as regards the proportion of specimens giving a low number of colonies (54 and 56 per cent., respectively, gave four or fewer colonies). With *T. rubrum* the microscopy of such specimens was more accurate, only 21 per cent. being missed, but with *T. mentagrophytes* 45 per cent. were missed. *T. mentagrophytes* is probably more easily isolated in culture than *T. rubrum* because it has a higher growth rate. Thus it may be that when a limited quantity of fungus, which is apt to be overlooked in microscopy, is present, a culture is more likely to be obtained with *T. mentagrophytes* than with *T. rubrum*.

The findings may also be related to the difference between the nature of the two infections. Material from *T. rubrum* infections contains hyphae in 'reasonable' and constant amount, whereas with *T. mentagrophytes* the severe local reaction to the infection checks the development of the fungus and few hyphae are to be found. The results with *T. rubrum* represented what might be expected in isolations from material in which the amount of fungus present varies but slightly from specimen to specimen. It is concluded that the method is satisfactory, though it may not be applicable to all types of clinical material. However it needs no modification for use with human hair, and often gives successful results with animal material if the material is carefully selected and the inocula reduced to minimum size. With horse, dog, and cat hairs good results were achieved when the lowermost 3 mm. were cut into four or five pieces and sown on malt extract agar. With bovine material the very small hair stubs within the waxy scales provided the best inoculum. They were readily separable by pressure on the scale masses with the flat side of a scalpel blade.

A method of combating mould contaminants was evolved, based on the fact that many fungicides, effective *in vitro*, are unable to penetrate tissue except after long exposure: the selected material was divided into pieces, each large enough to give four inocula, which were shaken in a test-tube containing an aqueous solution of the fungicide for five minutes. The fungicide was then filtered off and the material transferred to a dry filter-paper, where each piece was divided into four and inoculated, without washing, on slants of agar. When material treated with a fungicide containing mercury in organic combination was inoculated on media supplemented with antibiotics, singly and in various combinations, the isolation rate was greater than that obtained with antibiotics or fungicide alone. The incubation temperature was 35°, and the first isolates of *T. verrucosum* were identified after six or seven days.

The cost of the method is negligible, and it can be used with any medium. Preparation for culture is rather lengthy, but much less time is required than for the preparation of media containing antibiotics.

2277. Achten (G.). **The use of detergents for direct mycologic examination.**—*J. invest. Derm.*, 26, 5, pp. 389–397, 1956.

From the St. Pierre University Hospital, Brussels, the author recommends a 0·1 per cent. solution of the cationic surface-active agent Aminol (Union Chimique Belge, Brussels), together with 0·2 per cent. basic fuchsin, for the clearing of scales, hairs, and nail scrapings, and their conservation for purposes of demonstration. The combination was found superior to KOH, chloral-lactophenol, and to anionic detergents, sodium lauryl sulphate, and sodium lauryl sulphonate.

2278. Grimmer (H.). **Die tiefe Trichophytose des Meerschweinchens als Testobjekt für externe fungistatische Substanzen.** [Deep trichophytosis of the Guinea-Pig as a test object for external fungistatic substances.]—*Arch. klin. exp. Derm.*, 204, 3, pp. 288–296, 2 graphs, 1957.

At the Skin Clinic of the Free University, Berlin, a fungistatic preparation consisting of 10 per cent. coal tar (pix lithanthracis) extract and 1 per cent. hexylresorcin, dissolved in chlorethyl and applied as a spray, was tested on guinea-pigs inoculated with *Trichophyton mentagrophytes*. The treatment resulted in a significant regression of the disease.

2279. Lewis (G. M.) & Hopper (Mary E.). **Histologic study of fungus cultures.**—*Arch. Derm. Syph., Chicago*, 72, 4, pp. 362–370, 5 figs., 1955.

At the Department of Medicine (Dermatology), New York Hospital, and Cornell University Medical Center, sections of giant colonies of 12 dermatophytes and 6 common contaminants grown on dextrose agar were studied after periodic acid-Schiff staining. For most species there were characteristic findings in the 'fringe', 'core', or 'substrate' of the colony.

2280. Rogachefsky (H.), Rosenthal (S. A.), Litt (J. Z.), & Baer (R. L.). **Trichophytin reaction after exposure to dermatophytes.**—*Arch. Derm. Syph., Chicago*, 74, 6, pp. 606–609, 1956.

At the Skin and Cancer Unit, University Hospital, New York, 115 subjects (18 to 60 years of age) were chosen for study after preliminary trichophytin testing (in the forearm) had been found to elicit in them either no immediate urticarial response, or a negative delayed 48-hour response, or both. Of these, 72 were exposed to [unspecified] dermatophytes by dipping the feet in contaminated footbaths, as described elsewhere [2, Nos. 2204, 2307]. The remaining 43 controls were not exposed. Six weeks or more after the exposure of the first group all were submitted once again to the trichophytin test. Among those who had exhibited no immediate urticarial reaction at the preliminary test, eight (12·7 per cent.) out of the total of 63 exposed gave a positive immediate response to the second test, while of the 40 unexposed controls in the same group, one (2·5 per cent.) did likewise. Among those who had exhibited a delayed negative 48-hour reaction at the preliminary test 19 (40·4 per cent.) of the 47 exposed developed a positive delayed reaction at the second test, compared with four (22·2 per cent.) of the corresponding 18 controls. The authors concluded that exposure to heavy inoculum was seemingly capable of producing or reawakening trichophytin sensitivity, although clinically detectable disease was not produced in any case. However, in view of the appearance in controls at the second test of reactions not elicited at the preliminary test, the position is not clear.

2281. Allison (S. D.). **Microsporum gypseum in Hawaiian soil.**—*Hawaii med. J.*, 14, 5, p. 405, 1 fig., 1955.

The author notes two cases of *Microsporum gypseum* infection in Hawai

in 1952 and 1955, and refers to a personal communication from Dr. L. Ajello, who recorded finding this fungus in 23 of 100 Hawaiian soils examined [cf. 2, No. 600].

2282. Fuentes (C. A.), Bosch (Zilia E.), & Boudet (C. C.). **Isolation of Microsporum gypseum from soil.**—*Arch. Derm. Syph., Chicago*, 71, 6, pp. 684–687, 6 figs., 1955.

Microsporum gypseum was isolated from 7 of 13 Cuban soil samples. Five of the isolates were pathogenic for mice.

2283. Frey (D. M.) & Durie (E. B.). **The isolation of keratinophilic fungi, including Microsporum, from Australian soil.**—*Aust. J. exp. Biol.*, 34, 3, pp. 199–204, 14 figs., 1956.

At the Royal North Shore Hospital, Sidney, 96 soil samples from various parts of New South Wales were examined for the presence of dermatophytes by placing autoclaved human hair bait at the surface of the moistened samples in Petri dishes, and transferring those on which mycelium developed to a selective medium (0·5 mg. 'Actidione', 20 units penicillin, and 40 units streptomycin per ml. Sabouraud's agar) for identification of the fungus. Twelve samples yielded *Microsporum gypseum* and 15 *Keratinomyces ajelloi* [cf. 2, No. 2196]. All but four of the isolates were obtained from samples collected in or about buildings where animals tended to congregate, but this may have been due at least in part to the fact that the samples from outlying districts away from buildings had been stored for some time, which may have affected the viability of the fungi present in them. Other fungi encountered in the study included species of *Fusarium*, *Scpedonium*, *Fusidium*, *Penicillium* and others not yet fully identified, some of which are keratinophilic.

2284. Kihlberg (G.) & Fries (N.). **Some experiments with induced mutations in Trichophyton mentagrophytes.**—*Svensk bot. Tidskr*, 51, 1, pp. 36–42, 1 pl., 1957.

At the Institute of Physiological Botany, Uppsala, morphological and biochemical mutants of a strain of *Trichophyton mentagrophytes* were obtained by ultra-violet irradiation. Some of the former were morphologically identical with types described as separate species, e.g. *T. tonsurans* (cerebriform type) and *T. verrucosum* (album type). The biochemical mutants included strains requiring arginine, lysine, tryptophane, leucine, methionine, adenine, inositol, and reduced sulphur. All combinations of these in pairs, however, were able to grow on a minimal agar medium. In an attempt to explain this the author considered the possibilities of heterokaryosis and syntrophism. The former was dismissed on the grounds that hyphal tips or conidia obtained from the mixed cultures on minimal agar were incapable of growth on the medium. Syntrophism seemed more likely, though it did not explain the growth of an association of two strains, both requiring arginine.

2285. Johnstone (K. I.) & La Touche (C. J.). **Cultural characteristics of dysgonic strains of Microsporum canis Bodin.**—*Trans. Brit. mycol. Soc.*, 39, 4, pp. 442–448, 2 graphs, 2 pl., 1956.

At the University of Leeds small blocks each with a single spore of *Microsporum canis* were transferred to separate nutrient agar slopes containing 3 per cent. (w/v) glucose and 20 units penicillin and 40 units streptomycin per ml. After seven days at 27° C. colonies of dysgonic strains attained a mean diameter of only 3 mm.

Eugonic colonies at 27° C. attained a mean diameter of 19 mm. At 31°,

dysgonic and eugonic strains grew with equal rapidity, the colonies reaching a diameter of 26 mm. By the fourteenth day the superficial mycelium of the eugonic strains could be distinguished by its greater density and whiteness. At 37°, the dysgonic strains were stunted, the mean diameter of the colonies being 1 mm.; the mycelium was very irregular, and there were numerous vesicular chlamydospores. The eugonic strains grew steadily, though much less rapidly than at 31° C., reaching a mean diameter of 10 mm.

The growth characters of both strains were then investigated by hair implantation in glucose nutrient agar at $12{\cdot}8 \pm 1{\cdot}7°$. The effect on the dysgonic strains was even greater than at 27°, growth being stunted, with much greater irregularities in the hyphae. After 23 days, agar slope cultures yielded a growth scarcely perceptible to the unaided eye and only a stunted, irregular growth microscopically. The eugonic strains showed a very retarded growth, with many irregular hyphal forms, attaining a diameter of only 27 mm. after 23 days.

It is concluded that dysgonic strains of *M. canis* are degenerate forms of the species, and as the dysgonic strains in the active growth phase appear to be confined to animals and man, it is suggested that their eradication from these hosts would lead to their elimination as pathogens.

2286. Taschdjian (Claire L.) & Muskatblit (E.). **Microsporum-gypseum-like fuseaux in Microsporum audouini.**—*Arch. Derm. Syph., Chicago*, 71, 6, pp. 722–724, 2 figs., 1955.

A culture of *Microsporum audouini*, isolated from a patient at the Department of Dermatology and Syphilology, New York Postgraduate Medical School, temporarily produced fuseaux of the *M. gypseum* type.

2287. Coudert (J.) & Pruniéras (M.). **Note sur la présence d'une antityrosinase chez certains dermatophytes.** [A note on the presence of an antityrosinase in certain dermatophytes.]—*Bull. mens. Soc. linn. Lyon*, 25, 5, pp. 125–128, 1956.

The authors used the method of Robinson and his collaborators [2, No. 594], but with solid instead of liquid medium, to examine the antityrosinase activity of a number of fungi. The following species displayed activity: *Sabourandites* [*Microsporum*] *canis*, *S.* [*M.*] *audouini*, *Langeronia* [*Trichophyton*] *soudanensis*, *Ctenomyces* [*T.*] *mentagrophytes*, *Aspergillus fumigatus*, and *Rhinocladium schencki-beurmanni* [*Sporotrichum schencki*]. Certain strains only of *Trichophyton schoenleini* also exhibited this activity but *Histoplasma capsulatum*, *Blastomyces dermatitidis* and *B.* [*Paracoccidioides*] *brasiliensis* did not.

The results demonstrate that some dermatophytes inhibit pigment formation as a result of their antityrosinase effect. Others exert an effect comparable to that of tyrosinase due to a diffusible factor, and these are able to intensify colour and even to produce black.

2288. Umnova (Mme I. I.). **Kulturbesonderheiten des Pilzes Epidermophyton rubrum (Rubrophyton).** [Cultural peculiarities of the fungus *Epidermophyton rubrum* (*Rubrophyton*).]—*Lab. Delo, 1956*, 3, pp. 18–20, 1956. [Russian. Abs. in *Ber. wiss. Biol.*, 107, 3, pp. 342–343, 1956.]

Epidermophyton [*Trichophyton*] *rubrum* is considered to occupy an intermediate position between the genera *Trichophyton* and *Epidermophyton*. From 300 patients with skin diseases in the U.S.S.R. 196 strains of *T. rubrum* were isolated.

2289 Chattaway (F. W.), Thompson (C. C.), & Barlow (A. J. E.). **The action of** inhibitors on dermatophytes.—*Biochem. J.*, 63, pp. 648–656, 6 graphs, 1956.

At the Department of Dermatology, The Royal Infirmary, Huddersfield,

the endogenous respiration of freshly isolated strains of *Microsporum audouini*, *M. canis*, *Trichophyton schoenleini*, *T. rubrum*, and *Epidermophyton floccosum* was inhibited by arsenite, fluoride, iodoacetate, fluoroacetate, saturated straight-chain fatty acids and cationic, anionic, and neutral detergents [cf. 2, No. 601]. The fatty acids produced marked inhibition, their effect increasing with the length of the carbon chain up to C_{14}, and decreasing with pH: at optimum concentrations of the acids inhibition was complete within 2 min., partially reversible by washing the mycelium within the first 30 min., and irreversible thereafter. With the detergents inhibition was likewise irreversible after 30 min. but the effect of pH was various: with the cationic detergent inhibition increased with pH, with the anionic one it decreased, and with the neutral one there was little change.

In further work washed mycelial mats of the fungi were floated on solutions of the fatty acids and detergents, and the release of amino nitrogen, pentoses, inorganic phosphate, and material absorbing at 260 mμ. was followed at various pH values and concentrations of inhibitor, and at various intervals of time. With the fatty acids the release of these materials was greatest at low pH, but with the detergents pH exerted no significant influence.

2290. Licks (F. C.). **Dermatologic aspects of mycotic infections.**—*J. med. Soc. N.J.*, 53, 9, pp. 473–476, 1956.

Essential information is presented on the laboratory identification and the etiology of the dermatomycoses encountered more or less frequently in New Jersey, including tinea, associated with *Microsporum fulvum* [*M. gypseum*], *Trichophyton violaceum*, *T. sulphureum*, *T. rubrum*, and *T. mentagrophytes*; favus (*T. schoenleini*); and moniliasis (*Candida albicans*).

2291. Grimmer (H.). **Der Wandel der Epidemiologie der Epidermophytien in den Jahren von 1952 bis 1956 in Berlin.** [Changes in the epidemiology of epidermophytosis in the years from 1952 to 1956 in Berlin.]—*Arch. klin. exp. Derm.*, 203, 2, pp. 125–129, 1956.

This paper from the Skin Clinic of the Free University, Rudolf Virchow Hospital, Berlin, records statistical findings in respect of superficial mycoses encountered in the Clinic during 1954–56. It follows an earlier paper covering the previous two-year period [2, No. 1112]. There were considerably more infections caused by *Trichophyton rubrum* (116 as compared with 39 in the earlier study) but fewer of *T. interdigitale* (50:95). *Epidermophyton floccosum* was not encountered (0:1).

2292. Georg (Lucille K.), Hand (E. A.), & Menges (R. A.). **Observations on rural and urban ring-worm.**—*J. invest. Derm.*, 27, 5, pp. 335–353, 3 pl., 1956.

An account is presented of a study on the salient features of urban and rural ringworm in an area of north-eastern Michigan. The patients were observed during 1949–54, and specimens were sent to the Communicable Disease Center, Atlanta, Georgia, for examination. The area studied consisted of several medium-sized cities, some small towns, and many farms distributed throughout 13 counties. The different types of infection were studied with reference to the place of residence of the patient, his occupation, the type of lesion presented, and human or animal contacts in the home environment. Only cases verified by the isolation of dermatophytes were studied. The home premises of as many patients as possible were investigated; animals were examined for the presence of skin lesions, and when these were found, specimens of hair and of skin scrapings were collected for culture studies. Soil samples were taken and cultured by baiting with sterilized human hair.

For the purposes of discussion, the ringworms are divided into 'rural' and 'urban'. The former are caused by *Trichophyton verrucosum* and *T. mentagrophytes* (granular variety), the latter by *Microsporum audouini*, *M. canis*, *T. tonsurans* [2, No. 170], *T. mentagrophytes* (downy variety), *T. rubrum*, and *Epidermophyton floccosum*. Infections by *M. gypseum* appeared to be equally common in both environments. In all, 173 cases were investigated. Of these, 32 were caused by *T. mentagrophytes* (granular) and 31 by *T. verrucosum*; *M. audouinii*, *T. tonsurans*, *T. mentagrophytes* (downy), *T. rubrum*, *E. floccosum* and *M. canis* caused, respectively, 55, 18, 8, 8, 5, and 14 cases; and *M. gypseum* was the agent in two.

It is concluded that, in general, rural ringworm is of animal origin and never epidemic: the lesions tend to be suppurative and generalized reactions may occur. Urban ringworm consists of human epidemic types and infections (usually of *M. canis*) contracted from cats and dogs.

The evidence for the animal origin of rural ringworm is discussed in detail. *T. verrucosum* infections are directly related to contacts with ringworm-infected cattle. Rural *T. mentagrophytes* infections probably result from contacts with various animals. This fungus was isolated from 18 rats of three species and 12 mice of two species, as well as from 10 chinchillas, 141 guinea-pigs, six dogs, and two cats.

An epidemic of *T. tonsurans* in north-eastern Michigan is discussed. The disease, previously unknown locally, has now become endemic in places where Mexican labourers have settled, and constitutes an important public health problem.

2293. Pinkerton (Mary E.), Mullins (J. F.), & Shapiro (E. M.). **The ecology of superficial fungus infections in Galveston, Texas : a five year survey.**—*Tex. Rep. Biol. Med.*, 15, 1, pp. 26–49, 1957.

The results of a study on the 1,153 cases of superficial dermatomycosis diagnosed at the University of Texas Medical Branch, Galveston, during 1951–5, are fully described, discussed, and tabulated, under the aspects of species of fungi, sites of infection, sex, race, age, epidemiology, residence, economic status, duration of infection, clinical appearance, and cultural characteristics. Cases of infection by *Microsporum audouini* numbered 40 (3·5 per cent.), *M. canis* 124 (10·7), *M. gypseum* 24 (2·1), *Trichophyton tonsurans* 253 (22), *T. mentagrophytes* 172 (14·9), *T. rubrum* 500 (43·4), *Epidermophyton floccosum* (accompanied in several cases by *T. rubrum* or *T. mentagrophytes*) 33 (2·8), *T. verrucosum* 2 (0·2), *T. violaceum* 3 (0·2), and *Cladosporium wernecki* 3 (0·2). *Candida albicans* and other *C.* spp., *Geotrichum*, and *Rhodotorula* were often found in association with *T. mentagrophytes* or *T. rubrum* in cases of tinea pedis or tinea cruris. A relationship was observed between granular colonies and inflammatory lesions and between downy colonies and mild attacks of the tineas caused by the two last-named species.

2294. Fegeler (F.). **Untersuchungen zur Epidemiologie der Epidermophytien mit besonderer Berücksichtigung des Trichophyton rubrum (Castellani).** [Studies on the epidemiology of epidermophytes with special regard to *Trichophyton rubrum* (Castellani).]—*Arch. klin. exp. Derm.*, 203, 6, pp. 570–576, 1956.

From statistical studies of dermatophytosis at the University Skin Clinic, Münster, Germany, during 1953–56, the author confirms the reports of an increase in the importance of *Trichophyton rubrum* and a regression in that of *Epidermophyton floccosum*. He notes, however, that he encountered *T. rubrum* more frequently immediately after changing from Grütz to cycloheximide [actidione] agar [cf. 2, No. 2183], which prompts him to suggest that the

generally reported increase in *T. rubrum* may be due at least in part to the use of media more favourable to the fungus. He noted also that with the use of actidione agar the downy (Kaufmann-Wolf) form of *T. interdigitale*, and to a much lesser extent the granular form, could be induced to form pigment, from which he concludes that *T. rubrum*, like *T. interdigitale*, should be regarded as a variety of *T. mentagrophytes* [cf. 2, No. 1115].

2295. Hakendorf (A. J.). **An outbreak of Trichophyton rubrum infection in South Australia.**—*Aust. J. Derm.*, 3, 4, pp. 208–211, 1956.

Details are given of an outbreak of tinea caused by *Trichophyton rubrum* during the hot weather of 1956 in a home for elderly invalids in Adelaide [cf. 1, No. 2500]. The infection was introduced by an Italian with a generalized eruption of darkly pigmented, circinate lesions, which were subsequently found to be characteristic of the third or chronic stage of the complaint in the other 21 patients who became involved. In the earlier, acute and subacute phases the pigmentation was pinkish-red and livid to faintly purple, respectively.

The epidemic was controlled by sanitary precautions and fungicidal treatment consisting of two applications daily for five days of 5 per cent. silver nitrate and tincture of iodine, followed by a change to Whitfield's ointment, Castellani's paint, or asterol, of which the last-named was the most generally effective. With the return of the hot weather, however, the appearance of new acute lesions was observed in some of the clinically cured patients.

2296. English (Mary P.). **Trichophyton rubrum infection in families.**—*Brit. med. J.*, 5021, pp. 744–746, 1 fig., 1957.

Nineteen Bristol families, from each of which one member had reported to the Bristol Royal Hospital with *Trichophyton rubrum* infection, were visited and examined for infection by this fungus. The disease had spread in nine of the families, and 13 (27 per cent.) of the contacts were infected. The mycological similarity of fungi isolated from members of the same family was demonstrated. Six of eight persons over the age of 14 who had been exposed to infection during childhood had contracted the disease. Periods of exposure of from one to 15 years were noted before clinical signs of the disease occurred. The nails had been attacked in 78 per cent. of all infected persons. Cross-infection with *T. rubrum* in families is therefore considered important. Simple precautions against spreading the disease are suggested.

2297. Ingram (J. T.) & La Touche (C. T.). **Athlete's foot.**—*Brit. med. J.*, 5023, p. 886, 1957.

The authors report from the Leeds group of hospitals that among an approximate total of 352 patients with tinea pedis confirmed by culture, there were within families five instances of spread of *Trichophyton rubrum* [see above] infection, two of *T. mentagrophytes* var. *interdigitale* [*T. interdigitale*] and two of *Epidermophyton floccosum*.

2298. Doupagne (P.). **L'athlete's foot chez les Autochthones du Congo belge.** [Athlete's foot among Natives of the Belgian Congo.]—*Ann. Soc. belge Méd. trop.*, 37, 2, pp. 245–250, 1957. [Flemish, English, German, and Spanish summaries.]

Of 925 men seen at the Stanleyville barracks, Belgian Congo, 105 (12 per cent.) presented clinical manifestations of tinea pedis. Microscopic examination revealed the presence of hyphae in 39 (37·1 per cent.), and culture on Sabouraud's dextrose agar (with the addition of actidione, streptomycin, and

penicillin) yielded 10 strains of dermatophytes (9·5 per cent.), i.e. five of *T. interdigitale*, four of *Epidermophyton floccosum*, and one of *Microsporum langeroni* [2, No. 1923]. These figures are compared in a table with data reported from other countries.

2299. Hall (F. R.). **Cultures and findings in two hundred cases of dermatophytosis of the feet.**—*Arch. Derm. Syph., Chicago*, 74, 3, pp. 306–307, 1956.

Culture on Sabouraud's dextrose medium was performed in 200 cases of tinea pedis, in which fungi had been demonstrated microscopically. 149 were positive, yielding *Trichophyton mentagrophytes* (50·4 per cent.), *T. rubrum* (38·1), *Epidermophyton floccosum* (6·5), and *Candida albicans* (5). Males were more frequently affected than females (143:57). For these culturally positive cases comparison was then made between cultural findings from the toes, including the nails (123 positive), and the plantar surfaces and sides of the feet (250 positive). Fungi were seldom found in interdigital fissures and macerated areas.

Of 15 'id' eruptions 13 were associated with *T. mentagrophytes*, one with *T. rubrum*, and one with no ascertainable fungus infection. Foot lesions were most often associated with lesions of other parts of the body when the causative fungus was *T. rubrum*. *C. albicans* or *E. floccosum* were found in association with either *T. rubrum* or *T. mentagrophytes* in 12 cases.

2300. Gould (W.) & Schwartz (M.). **Tinea pedis in general practice.**—*Practitioner, Lond.*, 176, 1056, pp. 670–673, 1956.

An attempt was made at Chadwell Heath [Hospital], Essex, England, to evolve a simple self-treatment for tinea pedis by the use of penotrane [1, No. 2053]. Patients were instructed to wash the feet twice daily, to avoid contact between the bare feet and the bathroom floor and mats, and to change into clean socks daily. Penotrane powder was dusted on to the feet, socks, and shoes. Penotrane solution, jelly, or tincture was applied night and morning. The jelly was massaged in, the solution and tincture swabbed on with cotton-wool and allowed to dry before dusting the feet with the powder. In most cases, the solution was used initially with the powder. If continued application of the solution dried the skin, the jelly was used instead, the solution being again employed at the first sign of sogginess.

Forty-five patients were treated. Of these, 17 (38 per cent.) showed very good results (all lesions healed clinically), 19 (42 per cent.) good results (mild irritation, but no apparent lesion), seven (15·5 per cent.) fair results (considerable relief, lesions controlled but not healed), and two (4·5 per cent.) poor results, but these last may have been wrongly diagnosed. Where the condition had been present for less than a year, treatment required one to three months in 12 of 44 cases and four to six months in two cases. Where it had been present for one to three years, treatment took one to three months in 12 cases; four to six months in five cases, and seven to 12 months in seven cases. Where it had been present over three years, the treatment took four to six months in two cases, seven to 12 months in one case, and over 12 months in one. No report of relapse during the summer was received from any patient who had completed the treatment by May 1955.

2301. Gentles (J. C.) & Holmes (J. G.). **Foot ringworm in coal-miners.**—*Brit. J. industr. Med.*, 14, 1, pp. 22–29, 1957. [*B.H.*, 32, p. 444.]

In a survey of tinea pedis in the major coalfields of Great Britain 1,900 of the 2,101 miners examined were found, clinically, to have some abnormal condition of the skin of the feet, though fungal infection was detected in only

438 (21 per cent.). The infecting species were *Trichophyton mentagrophytes* alone in 224 cases, *T. rubrum* alone in 148, and *Epidermophyton floccosum* alone in 11. There were also 20 double infections involving *T. mentagrophytes* and *T. rubrum* in 13, *E. floccosum* and *T. rubrum* in 4, and *E. floccosum* and *T. mentagrophytes* in 3. Of these double infections, 11 were of the combined type (in the same lesion) and 9 concurrent (in different lesions). An epidemiological study revealed that the pithead bath was by far the most important single factor in the spread of the disease. In one pit the infection rate, which had been 3·5 per cent., increased to 10 per cent. during the six months following the introduction of baths. In general, the incidence in pithead bathers was 31 per cent., as opposed to 8 per cent. in those who did not use the baths. The site of work underground, the temperature of the mine, the geographical situation, and the season of the year appeared to be of little importance. Although there were no data on the economic importance of the disease, 2 per cent. of the men had lost working time as the result of conditions diagnosed by their own doctors as foot ringworm.

2302. Chorazak (T.), Kamiénski (J.), & Weigl (W.). **Grzybice stóp jako choroba zawodowa górników.** [Dermatophytosis of the feet as an occupational disease of Miners.]—*Przegl. derm.*, 5, 2, pp. 123–133, 10 figs., 1955.

In the study here reported from the A. M. Śląskig Clinic of Dermatology at Zabize 3,161 miners from five mines were examined for foot conditions clinically resembling dermatophytosis. The incidence was 1,781 out of 2,635 (67·6 per cent.) in underground workers and 299 of 526 (56·9 per cent.) in surface workers. In young miners in the first year of underground work the incidence was somewhat lower than thereafter. The incidence did not vary from mine to mine and was not related with type of occupation, age, number of years spent below ground, or type of footwear (leather or rubber).

The bathing facilities appeared to be the main cause of the high incidence. Culture on Sabouraud's medium from 414 cases yielded *Epidermophyton* Kaufmann-Wolf [*Trichophyton interdigitale*] (88), *Monilia* [*Candida*] (20), *E.* [*T.*] *rubrum* (1), and *E. inguinale* [*E. floccosum*] (1).

2303. Gentles (J. C.). **Athlete's foot fungi on floors of communal bathing places.** —*Brit. med. J.*, 5021, pp. 746–748, 1957.

The work here described has already been noticed [2, No. 2197].

2304. Baer (R. L.). **The epidemiology of epidermophytosis of the feet.**—*Amer. J. clin. Path.*, 25, 12, pp. 1440–1441, 1955.

In a discussion of the pathogenesis of epidermophytosis of the feet the author contrasts two views, 1) that exposure to exogenous infection is important in the development of acute infection; 2) that acute infections result when a lowering of skin resistance permits the multiplication of fungi normally present on the feet. In support of the latter view he cites recent work [2, Nos. 1667, 2204] in which dermatophytes inoculated on to healthy feet did not produce infection, and often did not survive.

2305. Docekal (B.) & Tichacek (B.). **Problème de l'épidermophytie des pieds dans l'armée.** [The problem of epidermophytosis of the feet in the army.]—*Bull. int. Serv. Santé Arm.*, 30, 1, pp. 5–14, 1 graph, 1957. [English summary.]

During 1953 the authors investigated 4,836 cases of tinea pedis [of unspecified origin] in the Czechoslovakian army. The complaint was alleged by 73 per cent. of the patients to have been contracted during military service. The

incidence of infection was materially reduced in an experimental group of 1,275 persons by regular dusting of the feet with powder consisting of 0·3 g. formic acid in 100 g. talc and disinfection of footwear with a 3 per cent. solution of the same compound.

2306. Wissel (K.). **Studien zur Epidemiologie und Therapie der Fußmykosen.** [Studies on the epidemiology and therapy of foot mycoses.]—*Dermatologica, Basel*, 113, 3, pp. 156–179, 2 figs., 1956.

Dermatophytes were responsible for 15 to 30 per cent. of the foot complaints among 1,918 recruits examined in the Basel, Zürich, and Thun districts of Switzerland. The species concerned were *Trichophyton rubrum* (represented in roughly half of the total number of cases), *T. interdigitale*, *T. gypseum* [*T. mentagrophytes*], *T. niveum* [*T. mentagrophytes*], *T. persicolor*, and *T. asteroides* [*T. mentagrophytes*]. Asterol was the most effective of three antimycotics tested.

2307. Baer (R. L.), Rosenthal (S. A.), Rogachefsky (H.), & Litt (J. Z.). **Newer studies on the epidemiology of fungous infections of the feet.**—*Amer. J. publ. Hlth*, 45, 6, pp. 784–790, 1955.

Two experiments are reported from the Department of Dermatology and Syphilology, New York University Postgraduate Medical School. In the first, 78 subjects with clinical evidence of fungous infection of the feet, and 28 controls free of infection, were required to immerse their feet for 15 min. in water which was then centrifuged, the sediment being examined microscopically and by culture for pathogenic fungi. Of the test group, 54 were microscopically and 13 culturally positive (8 *Trichophyton rubrum*, 4 *T. mentagrophytes*, 1 *Epidermophyton floccosum*), and of the controls four and one (*T. rubrum*), respectively.

In the second experiment, 45 volunteers whose feet had been free from infection at two microscopic and cultural examinations performed at an interval of one week, were required to soak one foot for 30 min. in footbath water containing fungi (14 were exposed to footbath water used by patients with active fungous infection, and the remainder to water heavily contaminated by pathogens from culture, to an average level of 19,075 viable fungus elements per 200 ml.). The second foot was soaked for the same period in sterile tap water. Scrapings from both feet were subsequently taken at weekly intervals for six weeks. None of the volunteers developed clinical fungous disease, though at some stage mycelial elements were detected on one or other foot in 60 per cent. of them. This was taken to be convincing evidence that exposure to fungous material in swimming pools, showerstalls and other such places plays a minor role in eliciting acute infection of the feet [cf. 2, No. 2280].

2308. Gould (W. L.). **Bromidrosis and hyperhidrosis of the feet with fungus infection; A-3 powder—an answer to these foot problems.**—*Med. Times, Great Neck*, 84, 1, pp. 65–67, 1956.

Excellent results are reported in the treatment of bromidrosis and hyperhidrosis with a foot powder consisting of 20 per cent. sodium thiosulphate, 70 per cent. boric acid, and 10 per cent. aluminium potassium sulphate. A study was carried out over eight months on 213 patients with either or both of these symptoms, 192 of whom were infected with *Trichophyton interdigitale*. The feet were dusted night and morning with the powder, and the footwear every morning, while frequent washing was recommended. There was complete relief of symptoms in every case within eleven days, and no untoward side effects were observed in any of the patients during eight months of continuous applications.

From several case histories quoted it appears that in some severe cases continuous preventive application is indicated, relapses occurring when this is discontinued. With many cases it suffices to clear the condition by a short course of treatment which is repeated if symptoms recur.

2309. Dostrovsky (A.) & Raubitschek (F.). **Recurring erysipelas of the lower extremities and its relation to tinea pedis.**—*Dermatologica, Basel*, III, 1, pp. 14–20, 1955. [German and French summaries.]

From the results of a study at the Medical School, Hadassah Hebrew University, Jerusalem, Israel, of 55 cases of recurrent erysipelas of the lower limbs it appears that the haemolytic streptococci responsible for the condition gain entrance to the lymph spaces of the skin through disruption of its continuity by an [unspecified] mycotic process. All the patients showed clinical, —and 38 of them microscopic, evidence of tinea pedis.

[This information is also presented in *Harefuah*, For. edn., 2, pp. 31–33, 1956, in Hebrew, with English and French summaries.]

2310. Langhof (H.). **Durch latente Tetanie bedingte Disposition zu Onychomykosen.** [Disposition to onychomycosis due to latent tetany.]—*Dtsch. Gesundheitsw.*, 10, 50, pp. 1617–1619, 1955.

The author describes onychomycosis, caused by *Epidermophyton* Kaufmann-Wolf [*Trichophyton interdigitale*] (3 cases), *E.* [*T.*] *rubrum* (1 case), and *Penicillium glaucum* (1 case) in five women, each of whom proved to have latent tetany. As, after the cure of both conditions, the onychomycosis did not recur, the tetany was assumed to have been a predisposing cause. Tetany is characterized by alkalosis, reduced peripheral blood supply, and cool, damp extremities [cf. 2, No. 884].

2311. Kesten (B. M.), Benham (R.), & Silva (M.). **Treatment of onychomycosis due to Trichophyton rubrum.**—*Arch. Derm. Syph., Chicago*, 71, 1, pp. 52–55, 1955.

At the Vanderbilt Clinic and College of Physicians and Surgeons, Columbia Presbyterian Medical Centre, encouraging results were obtained in the treatment of longstanding *Trichophyton rubrum* nail infections by Rothman's technique.

Infected nails were covered for half an hour each evening with a pad soaked in 65 per cent. lithium bromide. They were then sprayed with a preparation containing 16 per cent. dextrose and 84 per cent. asterol dihydrochloride. When dry they were painted with a lacquer containing 10 per cent. lithium bromide and 6 per cent. asterol.

2312. Franks (A. G.) & Taschdjian (Claire L.). **Incidence and etiology of tinea capitis. Special reference to Trichophyton tonsurans.**—*Arch. Derm. Syph., Chicago*, 74, 4, pp. 349–351, 1 graph, 1956.

Data are presented in tabular and graphic form, providing a comparison of the incidence of *Microsporum audouini*, *M. canis*, *Trichophyton tonsurans*, and 'other fungi' in cases of tinea capitis seen during 1933–55 at the Skin and Cancer Unit, New York University Hospital. At present *M. audouini* accounts for about 80 per cent. of cases seen, and *M. canis* for about 15 per cent. *T. tonsurans* was encountered, always in children, in most of the years in question, but was never important, and its incidence has not noticeably increased, although careful watch has been kept following reports of its spread in the United States [2, No. 170].

2313. Simuangco (S. A.) & Halde (C.). **Tinea capitis in the Philippines : with a report of a survey of 2,307 students.**—*J. Phil. Is. med. Ass.*, 31, 2, pp. 61–64, 8 figs., 1955.

From the City Hospital Department, Manila, the authors report two cases of tinea capitis, affecting a seven-year-old Philippine girl and a six-year-old American-Chinese boy, caused by fungi tentatively identified as *Trichophyton megnini* and *T. tonsurans*, respectively. In connexion with these cases 2,307 school-children were examined in daylight and under Wood's light. None was infected.

2314. Morgan (R. J.). **Epidemic ringworm of the scalp.**—*J. Okla. med. Ass.*, 49, 8, pp. 299–301, 1956.

General information is summarized on the epidemiology of tinea capitis (*Microsporum audouini* and *M. lanosum* [*M. canis*], the latter being the predominant agent in Oklahoma).

2315. Meenan (F. O. C.). **Mycological aspects of tinea capitis in Dublin.**—*Irish J. med. Sci.*, 6th Ser., 355, pp. 321–324, 4 figs., 1955.

The results are given of a small-scale survey of the fungi causing tinea capitis in Dublin. In all, 81 separate outbreaks from 72 families and nine institutions are recorded. *Microsporum audouini* was responsible for 29 outbreaks, *M. canis* for 38, and *Trichophyton tonsurans* for 14. The incidence of *T. tonsurans* appeared to be increasing. Cats and dogs are a constant source of tinea capitis in Dublin.

2316. Reid (J. D.) & Carter (E. B.). **Tinea capitis infections in Virginia.**—*Virginia med.* (*Semi-Mon.*), 83, 6, pp. 261–262, 1956.

The authors present a review of the tinea capitis cases seen at the Dermatology Clinic, Medical College of Virginia, during 1951–55. Of 977 specimens cultured, 733 (75·02 per cent.) were positive for dermatophytes, 103 (10·54 per cent.) were rendered useless by contamination, and the remaining 141 were negative. *Microsporum audouini* was responsible for about 90 per cent. of the infections. There was an increase of *T. tonsurans* over the last two years (4·95 and 8·08 per cent., respectively, as compared with 1·33, 2·72 and 1·35 in the previous three years) [2, No. 1425].

2317. Gay Prieto (J.), Peña Yañez (J.), & Jaqueti del Pozo (G.). **Aportación al estudio de la flora micologia de las tiñas del cuero cabelludo en Madrid y su provincia.** [A contribution to the study of the mycological flora of tinea of the hirsute scalp in the city and province of Madrid.]—*Med. colon.*, 27, 2, pp. 131–136, 1956.

Infected material from children with tinea capitis was examined at the Department of Dermatology and Syphilology, University of Madrid, and the Institute of Colonial Medicine. In 19 cases the causative agent was *Microsporum lanosum* [*M. canis*], in three *M. audouini*, in 40 *Trichophyton violaceum*, and in two *T. crateriforme* [*T. tonsurans*]. There was one double infection with *M. canis* and *T. violaceum*. *T. schoenleini* was not encountered [cf. 1, Nos. 2168, 2169]. *T. violaceum* was commonly the agent in colleges and residential schools, reflecting child to child infection by contact and sharing of clothing and washing facilities. In children living at home *M. canis*, contracted from domestic animals, was the usual agent.

2318. Murray (J. F.), Freedman (M. L.), Lurie (H. I.), & Merriweather (A. M.). **Witkop : a synonym for favus.**—*S. Afr. med. J.*, 31, 27, pp. 657–660, 5 figs., 1957. [FH 32 p 1052]

From a study of 815 cases of 'witkop' (white head) made in the course of

a survey during 1953 of 35,043 Bantu in the Bechuanaland Protectorate it is concluded that the condition is due to infection by *Trichophyton schoenleini*. It is not, as some authors have suspected, a pustular syphilid, though frequently co-existing with syphilis, and the term 'witkop' may be regarded as a regional synonym for favus.

2319. Hok (K. A.), Hamilton (A. Y.), Pilcher (K. S.), & Nieman (Rita). **Antifungal activity of a new group of salicylamide derivatives for dermatophytes. I. In vitro activity of N-butyl-3-phenyl salicyamide.** *Antibiot. & Chemother.*, 6, 7, pp. 456–464. 1956. [Spanish summary.]

At the Cutter Laboratories, Berkeley, California, and the Department of Bacteriology and Hygiene, Oregon State College, N-butyl-3-phenylsalicylamide displayed fungistatic activity against a series of dermatophytes *in vitro*, but none against most common saprophytes. The dermatophytes absorbed the compound readily from dilute solution, binding it so firmly that it could not be removed by solvents: the saprophytes did not bind in this way. The mechanism of the inhibition is not known, but it does not depend on interference with respiration. Clinical trials are to be reported.

2320. Weiner (M. A.). **Trichophyton rubrum infection simulating creeping eruption. Report of a case.**—*Arch. Derm. Syph., Chicago*, 74, 6, pp. 677–678, 1 fig., 1956.

A case is reported of *Trichophyton rubrum* infection of the scalp and buttocks in a 43-year-old male, the remarkable feature of which was the scalp lesion. This was a large circinate patch on the right side of the scalp, of which that part of the border involving the top of the scalp was 3 mm. wide, raised, and cord-like. Before the scalp was shaved only this prominent part of the border of the lesion was noticeable, and the case was referred to the writer under a provisional diagnosis of creeping eruption (larva migrans). Treatment with 3 per cent. salicylic acid and 3 per cent. sulphur, which was being continued at the time of writing, caused the eruption to disappear within nine days.

2321. Sawicky (H. H.), Franks (A. G.), & Taschdjian (Claire L.). **Tinea barbae caused by Trichophyton rubrum.**—*Arch. Derm. Syph., Chicago*, 71, 5, pp. 641–642, 1955.

Three cases of tinea barbae caused by *Trichophyton rubrum* are reported from the Department of Dermatology and Syphilology, New York University Postgraduate Medical School.

2322. English (Mary P.). **Otomycosis caused by a ringworm fungus.**—*J. Laryng.*, 71, 3, pp. 207–208, 1957.

From the Bristol Royal Hospital is described a case of infection of the external auditory meatus of an adult male by *Trichophyton mentagrophytes*. The condition was associated with partial blocking of the meatus by osteomata and the consequent accumulation of much epithelial debris. The literature of otomycosis caused by dermatophytes is surveyed.

2323. Van der Meiren (L.), Achten (G.), & Vanbreuseghem (R.). **Sabouraudites (Microsporum) gypseum et iodides végétantes.** [*Sabouraudites* (*Microsporum*) *gypseum* and iodides vegetantes.]—*Arch. belges Derm.*, 12, 2, pp. 183–187, 1956.

Lesions originating at the external angle of the left eye and spreading to the right eye, scalp, nose, and over the face of a 58-year-old male patient at the Hôpital St. Pierre, Brussels, were attributed on clinical and histological grounds to iodides vegetantes resulting from the prolonged administration of potassium iodide for chronic bronchitis. A strain of *Microsporum gypseum* with the flagelliform appendages observed in an isolate of the same species

in the Belgian Congo [1, No. 2192] was isolated twice from the region of the right eye.

2324. Keddie (F.), Hexter (G. F.), & Brown (A. S.). **Treatment of cutaneous fungus infections with a phenylsalicylamide derivative.**—*Arch. Derm. Syph., Chicago*, 74, 5, pp. 504–510, 1956. [*B.H.*, 32, p. 252.]

Dermatomycoses affecting the skin and nails in 159 patients responded well to a new phenylsalicylamide derivative, N-n-butyl-3-phenylsalicylamide (Bynamid). Four preparations were employed: 1) 5 and 15 per cent. tinctures; 2) a 5 per cent. ointment in a polyethylene glycol (carbowax) base; 3) a 5 per cent. lotion in polyethylene glycol; and 4) a 5 per cent. powder. The tincture was the most effective by virtue of its penetrating power. The ointment was used on dry skin lesions and the powder for intertriginous lesions: all three were frequently used concurrently. The tests, which were made at a total of 222 selected sites of infection, resulted in disappearance of lesions in 32 per cent., improvement in 45 per cent., and no change in 23 per cent. Of lesions on the trunk, legs, arms, and groin, 47 per cent. cleared, compared with 21 per cent. of those on hands, feet, and nails. Of 45 cases of *Candida albicans* infection, 18 were clinically cured, of 62 of *Trichophyton rubrum*, 17; of 36 of *T. mentagrophytes*, 13; of two of *T. tonsurans*, one; of 15 of *Epidermophyton floccosum*, four; of 15 of *Malassezia furfur*, five; and of 47 of unidentified infections, 14.

With onychomycosis four out of 14 caused by *C. albicans* were clinically cured, and three out of nine caused by *T. mentagrophytes*, while none out of twelve caused by *T. rubrum* responded. Excluding infections of the hand, scalp and nails, 70 per cent. of 53 lesions cleared in two months and 50 per cent. in one month. Signs of irritation were infrequent and the few instances of recurrence responded to resumed treatment. 'Cure' was based solely on clinical findings, not necessarily implying mycological cure.

2325. Brady (A. J.) & Gray (J. D.). **The treatment of fungous infection of the skin with nicetin.**—*Canad. med. Ass. J.*, 76, 9, pp. 725–729, 4 figs., 1957. [French summary.]

From Halifax, Nova Scotia, the authors report successful treatment of some common dermatomycoses, including those caused by *E*[*pidermophyton*] *floccosum*, *Trichophyton rubrum*, *T. mentagrophytes*, and *Microsporum audouini* (alone and in combination with *Candida albicans*), by the local application of nicetin (formerly known as CMA–37 and chemically described as α, α-dichloro-N-[β-(hydroxymethyl)-p-nitrophenacyl] acetamide), used either as a 2 per cent. ointment or as a solution of the same strength in propylene glycol. The treatment should not be prolonged beyond 10 days.

2326. Braun (W.). **Über Erfahrungen mit dem Antimykotikum Ovitrol.** [Experiences with the antimycotic ovitrol.]—*Dtsch. Gesundheitsw.*, 10, 38, pp. 1251–1253, 1955.

Ovitrol (active principle, 5,5′-dichlor-2,2′-dioxydiphenylsulphide) possessed satisfactory *in vitro* activity against *Microsporon lanosum* [*Microsporum canis*], *Epidermophyton* Kaufmann-Wolf [*Trichophyton interdigitale*], *E. rubrum* [*T. rubrum*], and *T. gypseum* [*T. mentagrophytes*]. Good results were achieved in the treatment of 200 patients.

2327. Kuhn (Beatrice H.). **Finaf, a new cutaneous fungicide.**—*Arch. Derm. Syph., Chicago*, 74, 6, pp. 627–628, 1956.

The author reports the results of a clinical trial of finaf (composition, 5·5 per cent. salicylic acid, 0·3 per cent. crystallized copper sulphate, and a trace of a trivalent iron salt in a base consisting of equal parts of isopropyl alcohol and

water) on 65 consecutive patients with various dermatomycoses [causative organisms not specified]. The results were promising.

2328. Menges (R. W.) & Georg (Lucille K.). **Survey of animal ringworm in the United States.**—*Publ. Hlth Rep., Wash.*, 72, 6, pp. 503–509, 2 maps, 1957.

In a survey of domestic, captive, and wild animals from 32 States dermatophytes were isolated from 520 (20 per cent.) of the 2,538 hair specimens examined. They included *Microsporum canis* from cats, dogs, monkeys, and a chinchilla; *M. gypseum* from dogs, mice, and rats; *Trichophyton mentagrophytes* from dogs, chinchillas, guinea-pigs, a kangaroo, mice, rats, and an opossum; *T. equinum* from horses; and *T. verrucosum* from cattle and a donkey. A red variety of *M. gypseum* isolated from rats and mice is considered by Dr. L. Ajello to be a new species.

2329. Ford (E. J. H.). **Ringworm in cattle : an account of an outbreak.** *Vet. Rec.*, 68, 46, pp. 803–806, 1956.

The author reports from the Institute of Animal Physiology, Cambridge, the course of an outbreak of ringworm due to *Trichophyton verrucosum*. The disease first made its appearance in June in group A, a herd of Shorthorn heifers and bullocks, six months to one year of age, at pasture: the first lesions were in three animals purchased with a lot of 18, all of which had been introduced into the group some six weeks before. The disease spread rapidly in group A, and after two weeks the home-bred animals in the group were also affected. Group A was separated from group B, a similar herd of 30 animals, by a wooden fence, both groups being kept from contact with other cattle by the surrounding arable fields and woodland. The first symptoms occurred in group B four weeks after the beginning of the outbreak, and after a further six weeks all animals of both groups were or had been affected. The part most affected was the neck, with only a few lesions on the limbs and muzzle. Treatment was begun as soon as infection was seen to be spreading: the crush through which the animals were passed at roughly three-weekly intervals for bleeding was disinfected after use, and at weekly inspections lesions were noted and a proprietary ointment, containing phenyl mercuric acetate, was applied without prior removal of crusts. The last lesions were cured 30 weeks after the beginning of the outbreak. The mean persistence of lesions was 17 weeks. At the thirty-first week 20 recovered animals from the A and B groups were housed in a yard, separated by a tubular iron fence from group C, consisting of 21 younger cattle. (It is noteworthy that this latter group had remained free of infection although at an earlier stage there had been infection in a calf sharing the same shed, and separated only by open tubular divisions.) Soon afterwards lesions appeared on one of the recovered animals and in 16 of group C. The first-mentioned animal was transferred to group C, and of the affected animals eight were treated twice weekly with the same dressing as before and nine by weekly intravenous injection of sodium iodide (3 g. per cwt. body weight). Under both treatments cure took approximately 10 weeks.

In the discussion it is pointed out that in the absence of controls it cannot be stated whether the treatments shortened the course of infection. With groups A and B this did however seem unlikely in view of the known tendency to spontaneous recovery at pasture. The fact that only one out of the group of 20 recovered animals from A and B became infected, as opposed to 17 out of 21 of group C in the adjacent pen, suggests that recovery confers a marked degree of resistance to reinfection. The failure of group C to become infected from the calf sharing the same shed is noteworthy. It is possible that the treatment of the lesions in the affected calf by ointment prevented spread by

rapid sterilization of the lesions, or that the daily smearing mechanically prevented the aerial dissemination of the spores.

2330. McPherson (E. A.). **A survey of the incidence of ringworm in Cattle in Northern Britain.**—*Vet. Rec.*, 69, 28, pp. 674–679, 1957.

Cattle in 133 of 518 herds examined were affected by ringworm (*Trichophyton verrucosum*). Of 30,766 cattle inspected, 888 (2·89 per cent.) were clinically affected, the incidence increasing to 8·46 per cent. when infected herds only were considered. Calves under 10 months old were more susceptible than adults. The disease showed no decreased incidence in spring and summer, neither did the location of the herd in Scotland, the nutrition of the animals, the lighting arrangements of the cattle sheds, nor the presence of lice on the beasts appear to influence the incidence. The condition was found more frequently in rearing herds than in dairy or beef herds.

2331. Forster (J.). **A clinical trial of a new treatment for bovine ringworm.**—*Vet. Rec.*, 69, 20, pp. 519–521, 1957.

A lotion containing 0·25 per cent. hexadecamethylene-1:16-bis (isoquinolinium chloride) (tinevet) coloured with crystal violet was applied to the skin of 100 cases of bovine ringworm after removal of the crusts by scraping. Clinical cure was obtained after two or three applications at intervals of three or four days. Signs of toxicity were not observed.

2332. Menges (R. W.) & Georg (Lucille K.). **Canine ringworm caused by Microsporum gypseum.**—*Cornell Vet.*, 47, 1, pp. 90–100, 2 figs., 1957.

The results of a general survey of specimens from 641 dogs suspected of harbouring tinea infection, which were collected by veterinarians in different parts of the United States, are reported from the Communicable Disease Center, Atlanta, Georgia. *Microsporum canis* was isolated from 77 (12 per cent.), *M. gypseum* from 46 (7), and *Trichophyton mentagrophytes* from four (0·4). *M. gypseum* was isolated mostly from young animals of 13 breeds, with 15 cases among boxers. Two outbreaks involving eight beagles and six fox terriers are described. The species was isolated from 21 out of 37 soil specimens collected from areas associated with cases of infection by *M. canis* and other dermatophytes.

2333. Kaplan (W.), Georg (Lucille K.), & Bromley (Clare L.). **Ringworm in Cats caused by Microsporum gypseum.**—*Vet. Med.*, 52, 7, pp. 347–349, 1957.

The clinical and mycological findings in four cats naturally infected with *Microsporum gypseum* are described. Fluorescence with Wood's light was not observed nor was the mosaic sheath arrangement of arthrospores, typical of *M. canis* infections. The clinical signs in the cat did not differ from those produced by other ringworm fungi. Only six other authenticated *M. gypseum* infections in the cat have been noted.

2334. Georg (Lucille K.), Roberts (C. S.), Menges (R. W.), & Kaplan (W.). **Trichophyton mentagrophytes infections in Dogs and Cats.**—*J. Amer. vet. med. Ass.*, 130, 10, pp. 427–432, 1957.

Of 1,166 specimens from cases of suspected ringworm in dogs, 254 were positive mycologically and of these 18 (7·1 per cent.) were due to *Trichophyton mentagrophytes*. The lesions in natural and artificial infections are described. They were restricted to small areas, particularly on the head and neck with only slight tissue reaction. Two morphologically distinct cultures, a downy and a ranular type, were obtained from one dog; both produced successful experi-

mental infection. *T. mentagrophytes* infection in two cats was also described, the lesions and laboratory findings being similar to those encountered in dogs.

2335. Gentles (J. C.) & O'Sullivan (J. G.). **The isolation of ringworm fungi from unusual hosts.**—*Vet. Rec.*, 69, 7, p. 132, 1957.

Trichophyton verrucosum is stated to have been reported from dogs only twice and this is the first record for Britain. One isolation of *T. mentagrophytes* from a calf is also reported.

2336. Guilhon (J.), Charton (A.), & Durieux (J.). **Teigne du Mouton.** [Ringworm in Sheep.]—*Bull. Acad. vét. Fr.*, 28, pp. 465–468, 1955. [*V.B.*, 27, 1058.]

This note records ringworm (caused by *Ctenomyces granulosus* [*Trichophyton granulosum*] in three sheep (in a flock of 300) in France. Signs of the infection were small, smooth or crusted lesions of about 1 sq. cm. at the base of the nose. The identity of the fungus was determined by culture.

2337. McPherson (E. A.). **Trichophyton mentagrophytes: natural infection in Pigs.**—*Vet. Rec.*, 68, pp. 710–711, 1956.

From the Royal (Dick) School of Veterinary Studies, Edinburgh, the first authentic British case of ringworm in pigs is described. The lesions were associated with pruritis and dermatitis and consisted of circular reddened areas on the neck and sides of the trunk without any hair loss. *Trichophyton mentagrophytes* was isolated from the heavily infected hairs and hyphae were seen growing towards their distal ends. Histological examination showed extensive infiltration of lymphocytes, plasma cells, fibroblasts, and eosinophils. Characteristic golden-coloured hairs containing brown hyphae were noted in the later stages of attack and spontaneous recovery took place 10 weeks after the appearance of lesions. The need for differential diagnosis from pityasiasis rosea is stressed.

2338. Carnaghan (R. B. A.), Gitter (M.), & Blaxland (J. D.). **Favus in Poultry: an outbreak of Trichophyton gallinae infection.**—*Vet. Rec.*, 68, pp. 600–601, 1956.

An outbreak of fowl favus (*Trichophyton gallinae*) in Berkshire was diagnosed at the Veterinary Laboratory, Weybridge, in 1954. A total of 40 hens were affected following the introduction of twelve cockerels into the flock. Lesions consisted of small, multiple, white, powdery areas on the comb, wattles, and sides of the face. The isolate differed from the type description of *T. gallinae* in not forming pigment in the medium but its identity was confirmed by L. K. Georg. Experimental inoculations were successful in fowls and showed spontaneous recovery in six to seven weeks. Guinea-pigs and rabbits could not be infected. The outbreak was the first one confirmed out of 26 suspected ones investigated over a period of seven years.

2339. Smith (W. W.), Menges (R. W.), & Georg (Lucille K.). **Ecology of ringworm fungi on commensal Rats from rural premises in southwestern Georgia.**—*Amer. J. trop. Med. Hyg.*, 6, 1, pp. 81–85, 1957.

Most of the human cases of *Trichophyton mentagrophytes* infection in rural areas are presumed to be of animal origin, while *Microsporum gypseum* is believed to be more readily transmitted through soil contacts.

The hairs of 434 commensal rats, comprising 350 *Rattus norvegicus* and 84 *R. rattus*, were tested by microscopic examination, fluorescence, and cultural methods, with positive results in 17 (4·9 per cent.) of the former and five (7·1) of the latter group. Only two rats harboured *M. gypseum*, which occurred,

however, in all the 28 soil samples collected on six premises where infected rats were trapped.

2340. Fuentes (C. A.) & Aboulafia (R.). **T. mentagrophytes from apparently healthy Guinea Pigs.**—*Arch. Derm. Syph., Chicago*, 71, 4, pp. 478–480, 2 figs., 1955.

At the Department of Experimental Pathology, School of Medicine, University of Habana, Cuba, *Trichophyton mentagrophytes* was isolated from 15 out of 113 guinea-pigs clinically free from infection.

2341. Castellani (A.) & De Silva (R.). **Tinea nigra. A short general account based on Far Eastern experience.**—*J. trop. Med.* (*Hyg.*), 60, 8, pp. 193–198, 5 figs., 1957. [BTH 32 f. 1053]

Information is summarized on the history, geographical distribution, experimental reproduction, symptomatology, and treatment of tinea nigra (*Cladosporium mansoni*), and on the morphology and taxonomy of the causal organism.

2342. Morales (J.). **Nota sobre un caso de tinea nigra causado por Cladosporium wernecki.** [Note on a case of tinea nigra caused by *Cladosporium wernecki*.]—*Rev. Med. exp. Lima*, 10, 1, pp. 53–57, 7 figs., 1956. [English summary.]

From the National Institute of Public Health, Lima, Peru, the author reports a case of tinea nigra affecting the nape of the neck in a 23-year-old male. He had been carrying sacks of grain balanced on the neck, and these might have been the source of infection. *Cladosporium wernecki* was isolated on Sabouraud's glucose agar, and hyphae and spores were seen in potassium hydroxide preparations of skin scrapings. This is the first record of this disease for Peru.

2343. Ritchie (E. B.) & Pinkerton (Mary E.). **A case of tinea nigra palmaris in Texas.**—*Arch. Derm. Syph., Chicago*, 72, 5, pp. 467–468, 2 figs., 1955.

From the Departments of Dermatology and Syphilology, University of Texas Medical Branch, the authors report tinea nigra palmaris (*Cladosporium wernecki*) in a three-year-old white boy resident in Galveston, Texas. This is the fifth record of this condition in white patients [1, Nos. 1068, 1802].

2344. Camain (R.). **Quelques données histopathologiques sur les mycétomes du Sénégal.** [Some histopathological data on mycetomata in Senegal.] *Bull. et Mem. Éc. Preparatoire Méd. Pharm., Dakar*, 3, pp. 168–172, 1955.

The author reports from the Pasteur Institute, Dakar, the histological findings in biopsy and necropsy material from 36 cases of mycetoma (*Nocardia pelletieri*, 14 cases; *Madurella mycetomi*, 14; *N.* [*Streptomyces*] *madurae*, 8). The causative agents were identified by culture. Where the agent was *N. pelletieri* the granules were 'haemateiphilic', spherical, ovoid or reniform, and small, never exceeding 250 μ. Stained by eosin-haemalum, they were seen to be sometimes partly broken up by inflammatory cells, especially polynuclear neotrophiles: at the periphery there was a highly eosinophilic band 3–5 μ broad and within it a 'haemateiphilic' band about 50 μ in breadth. The filaments of the actinomycete did not penetrate the eosinophilic layer. No club formation was demonstrable by Ziehl–Gram staining. With this organism infection, except where it had spread to involve the viscera, was confined to the skin, subcutaneous cellular tissue, and occasionally the subjacent musculo-tendinous and bony tissue. The histology of the lesions is described in detail.

With *S. madurae* the granules were in general spherical, non-'haemateiphilic', and attained a diameter of 500 μ. Eosin-haemalum revealed a peripheral pale pink band 15 μ broad, below it a more deeply stained band 30 to

35 μ in breadth, and within this 'some discretely haemateiphilic radial outlines of filaments' were visible. The rest of the granule was barely eosinophilic, staining yellowish pink in the central region. Ziehl–Gram staining was needed to show the actinomycotic nature of the filaments. Infection with this organism was restricted to the skin and cellular subcutaneous tissue.

Compared with the foregoing actinomycotic granules were true fungal granules [*M. mycetomi*] attaining 700 to 800 μ, assuming two forms, the first immature and consisting essentially of pale brown hyphae 2 to 3 μ in breadth, and the second mature and rich in dark brown chlamydospores. Infection with this organism affects the skin, cellular subcutaneous tissue, muscular and aponeurotic tissue, and sometimes bone. The histology of the lesions is discussed.

The author concludes that in the majority of cases of mycetoma in French West Africa it should be possible to identify the causative agent from histological data alone, without resort to culture.

2345. Vandepitte (J.), Beeckmans (G.), & Ninane (J.). **Premier cas de pied de Madura par Madurella grisea au Congo Belge.** [The first case of Madura foot caused by *Madurella grisea* in the Belgian Congo.]—*Ann. Soc. belge Méd. trop.*, 36, 4, pp. 493–497, 1956. [*T.D.B.*, 54, p. 481.]

This is the first case of mycetoma of the black-grain type to be reported in the Belgian Congo. The patient, a male negro aged 30, had had the mycetoma for two years, and the foot, which was very painful and tender on pressure, could not support him in walking. The swelling was not of the globular type which prevents the toes from resting on the ground [cf. 2, No. 2158]. In the skin over the swelling there were several soft or fluctuant nodules and some scars of healed sinuses. Incision of a nodule released a drop of sanguinolent pus containing numerous black grains less than 0·5 mm. in diameter, which, inoculated on glucose agar at 25° C, yielded white fluffy colonies up to 5 mm. in diameter in four days. The fungus was identified as *Madurella grisea* by Vanbreuseghem [2, No. 2159].

X-ray examination revealed alternate areas of osteolysis and osteoscleros is affecting all the phalanges and the metatarsal of the fourth toe, with extension to the cuboid, the third metatarsal, and probably the third cuneiform. The triple sulphonamide preparation sulphatriad [cf. *T.D.B.*, 52, p. 297] was administered in daily doses of 6 gm. for two ten-day periods, followed by isethionate of pentamidine in daily intramuscular injections of 200 mg. for two further ten-day periods. After the first ten-day course of sulphonamide, pain was markedly relieved and there was considerable subsidence of the swelling and associated inflammation. The condition remained stabilized at this stage but the infection was still active and viable black grains could always be obtained from the lesion throughout the four months of the patient's stay in the hospital. Pentamidine appeared to have no effect.

2346. Andleigh (H. S.). **Etiology of maduromycosis in India.**—*Mycopathologia*, 8, 2, pp. 138–153, 7 figs., 1957.

A case is reported of black-grain mycetoma (*Madurella mycetomi*) affecting the right forearm of a male aged 20 years, and the cultural findings on six media are described. It is concluded that there are only three species of *Madurella*, viz. *M. mycetomi*, *M. grisea*, and *M. lackawanna*.

2347. Andleigh (H. S.). **In vitro study of antifungal activity of pentamidine and stilbamidine.**—*Mycopathologia*, 8, 2, pp. 135–137, 1957.

A brief account is given of a study at the Sawai Man Singh Medical College, Jaipur, India of the activity of pentamidine [2, No. 516] and stilbamidine

against five cultures of *Madurella mycetomi* isolated from cases of mycetoma. Activity was assessed by observing the minimum concentration which inhibited growth on brain-heart infusion broth (containing penicillin and streptomycin) at 37° C. Pentamidine did so at 0·1 mg. per ml. Stilbamidine was ineffective.

2348. Gordon (M. A.). **Nutrition and sporulation of Allescheria boydii.**—*J. Bact.*, 73, 2, pp. 199–205, 1957.

At the Communicable Disease Center, Chamblee, Georgia, the author studied the growth of monoconidial isolates of ten strains of *Monosporium apiospermum* (*Allescheria boydii*) on chemically defined vitamin-free media [cf. 1, No. 1728]. Organic and inorganic nitrogen compounds served equally well as sole sources of nitrogen. Growth was not stimulated by the addition of biotin or a combination of 13 water-soluble and four fat-soluble vitamins. With all strains there was enhancement of mycelial growth and a great increase in conidial production on brain-heart infusion agar. With the media under study four strains formed perithecia regularly, one exceptionally, and the remainder not at all. It is concluded that the ability to form perithecia must be ascribed primarily to strain differences. None of the strains produced perithecia on brain-heart infusion agar.

2349. Slade (P. R.), Haseeb (M. A.), & Morgan (H. V.). **Oxytetracycline in the treatment of maduromycosis.**—*J. trop. Med.* (*Hyg.*), 59, 11, pp. 262–266, 1956. [*T.D.B.*, 54, p. 350.]

When six patients with the black-grain type (probably *Madurella mycetomi*) and five with the yellow type (probably *Nocardia somaliensis*) were treated with oxytetracycline [terramycin] at 2 g. per day for 25 days, diminution of swelling, cessation of discharge, and closing of sinuses resulted in four from each group, but these symptoms recurred in every case followed up for six months or more after the end of treatment. In the remaining three patients there was no response, but in one of these, in whom infection, of the black-grain type, was confined to the finger, cure was obtained by surgical excision.

Attributing the temporary improvement achieved to an action on the primary mycosis rather than to the relief of any secondary bacterial infection, the authors advocate further trials with terramycin.

2350. Silva (Margarita). **The parasitic phase of the fungi of chromoblastomycosis: development of sclerotic cells in vitro and in vivo.**—*Mycologia*, 49, 3, pp. 318–331, 2 pl., 1957.

At the Department of Dermatology, College of Physicians and Surgeons, Columbia University, New York, the author induced the formation of sclerotic cells, normally encountered only in the parasitic phase, in a proportion of 19 strains of fungi producing chromoblastomycosis (11 of *Fonsecaea* [*Phialophora*] *pedrosoi*, three of *F. compactum* [*P. compacta*], and five of *P. verrucosa*) by culture on (*a*) Salvin's triple peptone medium [1, No. 937], and (*b*) a 'synthetic lymph' in which protein was supplied in the form of sunburn peelings or toenail clippings.

Three animal hosts (chick chorio-allantoic membrane; pupae of the silkworm *Platysamia cecropia*; and mice, by intraperitoneal injection) were examined to see whether the parasitic phase could be induced regularly and in quantity in them. In chorio-allantoic membrane conversion to the sclerotic-celled habit was sporadic and undependable: in the silkworm some sclerotic cells were seen, but complete conversion was not obtained: and in mice partial conversion was observed in small impersistent abscesses on the spleen, intestinal mesentery, and liver.

In vitro the sclerotic cells originated as intercalary or terminal chlamydo-

spores, and also by the 'rounding off' of conidia, and it seemed likely that the same obtained for vegetative mycelium or conidia inoculated into the animal hosts. However, the factors required for induction of the parasitic phase remain undetermined.

2351. Simuangco (S. A.) & Halde (C.). **Chromoblastomycosis: first case in the Philippines.**—*J. Phil. Is. med. Ass.*, 31, 3, pp. 117–120, 7 figs., 1955.

This case of chromoblastomycosis, reported from the North General Hospital, Manila, is claimed to be the first recorded for the Philippines and the third in the world literature to be caused by *Fonsecaea compactum* [*Phialophora compacta*]. On entry the patient, a 58-year-old farmer, had a verrucous plaque 12 cm. × 6 cm. covering two-thirds of the inner aspect of the right foot and there were four other lesions in a line along the inner aspect of the right thigh, two being elevated, cauliflower-like, ulcerated tumours, and the others warty. Originally the lesion of the foot, which was of 25 years' standing, had begun as a small warty growth. All of the lesions were pruritic, had a yellowish crust, exuded a foul-smelling material, and bled easily following slight trauma. Histological examination of the foot lesion revealed hyperkeratosis with intra-epidermal abscesses and granulomatous reaction in the cutis. The centres of the granuloma and of some of the abscesses contained clumps of brownish thick-walled fungal cells, which were also to be seen engulfed by giant cells. The morphology of the fungus on Sabouraud's medium and on cornmeal agar was in accordance with the descriptions of Carrion [*Puerto Rico J. publ. Hlth*, 10, p. 543, 1935].

The foot lesion and adjacent cauliflower-like lesion were given bi-monthly X-ray treatment (150 r., 80 KV., 5 MA., 8 inch, FSD., unfiltered), while the others on the leg were treated with solid carbon dioxide. Local treatment consisted of potassium permanganate compresses and painting with a solution of gentian violet, and potassium iodide was given orally (10 drops increasing to 25 drops, three times daily). After two months the foot lesion had cleared to become a keloid-like plaque with only the lower border still verrucous. The cauliflower-like lesion had diminished, and the two smaller lesions had been replaced by pliable scars.

2352. Kakoti (L. M.) & Dey (N. C.). **Chromoblastomycosis in India.**—*J. Indian med. Ass.*, 28, 8, pp. 351–355, 6 figs., 1957.

A case of chromoblastomycosis (*Hormodendrum compactum*) [*Phialophora compacta*] involving the external genitalia in a 34-year-old female is reported from the Assam Medical College, Dibrugarh, this being the first record of the disease in India. An unusual feature of the infection was metastasis of the inguinal lymph nodes.

2353. Kaess (K. V.), Reberger (C. C.), & Sloss (P. T.). **Chromoblastomycosis. Laboratory observations on the causative organism.**—*U.S. Forces med. J.*, 6, 5, pp. 739–746, 4 figs., 1955.

An account is given from the United States Naval Hospital, Bremerton, Washington, of a case of chromoblastomycosis of eight years' standing affecting the left elbow of a 36-year-old man from which *Fonsecaea* [*Phialophora*] *pedrosoi* was isolated. Inoculation of a saline suspension of the organism cutaneously and subcutaneously into rabbits gave negative results. The patient was treated by surgical excision of the lesions and a split-skin graft.

2354. Farina (R.). **Chromoparasitic verrucose dermatitis (phialophoromycosis): surgical treatment.**—*J. int. Coll. Surg.*, 25, 5, pp. 545–550, 1956.

From the Dermatological Clinic of the São Paulo Faculty of Medicine,

Hospital das Clinicas, São Paulo, the author reports five cases of chromoblastomycosis [*Phialophora* spp.] of the lower limbs, successfully treated by skin grafting with simultaneous iodate treatment.

2355. Tarlatzis (C. B.), Panetsos (A. G.), & Draganos (P. N.). **The effects of some antibiotics and chemical drugs on the growth in vitro of Aspergillus fumigatus.**—*Amer. J. vet. Res.*, 18, 66, pp. 214–215, 1957.

Penicillin was inactive *in vitro* against *Aspergillus fumigatus*, in concentrations up to 125 μg. per ml. of culture medium; it was fungistatic at 250 μg. per ml. Seven other antibiotics and potassium iodide were fungistatic at 10 mg. per ml.; red iodide of mercury fungistatic at 18·75 μg. per ml., was fungicidal above this concentration.

2356. Librach (I. M.). **Primary pulmonary aspergillosis : report of a fatal case.**—*Antibiot. Med.*, 4, 6, pp. 377–380, 1 fig., 1957.

A 50-year-old bakery manager, a patient at Ilford Isolation Hospital, Essex, had been suffering for four years from productive cough and dyspnoea. There was no response to diamidine and antibiotic therapy and death occurred 17 days after admission from a massive melena. Post-mortem examination revealed a deep duodenal ulcer, and both lungs were studded with abscess cavities from which *Aspergillus fumigatus* was cultured.

2357. Andersen (H. C.) & Stenderup (A.). **Aspergillosis of the maxillary sinus. Report of a case.**—*Acta otolaryng., Stockh.*, 46, 6, pp. 471–473, 1956.

Infection of the maxillary sinus by *Aspergillus fumigatus* in a 55-year-old woman is reported from the University Ear Clinic, Municipal Hospital, Aarhus, Denmark. An extract of the fungus, which was isolated from a gelatinous membranous material in the sinus, provoked a strong cutaneous reaction in the patient. It is considered probable that the nasal symptoms—sneezing, stenosis, and development of polypi—were due to a local endogenous allergy to *A. fumigatus*.

2358. Sautter (J. H.), Steele (D. S.), & Henry (J. F.). **Symposium on granulomatous diseases. Part 2. Case 11. Aspergillosis in a Cat.**—*J. Amer. vet. med. Ass.*, 127, 945, pp. 518–519, 1 fig., 1955.

Two of four Siamese cats, all of which exhibited fever, lacrymation, conjunctivitis, and sneezing and coughing associated with mucopurulent discharge, died after two weeks. Diagnosis of pulmonary aspergillosis (*Aspergillus* sp.) was based on microscopical examination of lung sections from one of the cats, stained by Gridley's method.

2359. Morquer (R.) & Enjalbert (Lise). **Étude morphologique et physiologique d'un Aspergillus nouvellement isolé au cours d'une affection pulmonaire de l'Homme.** [Morphological and physiological study of an *Aspergillus* recently isolated in the course of a pulmonary illness of Man.]—*C. R. Acad. Sci., Paris*, 244, 10, pp. 1405–1408, 1957.

Aspergillus carneus was recently isolated from the bronchial secretions of a male patient at the sanatorium of Purpan, Haute-Garonne, France.

It proved to be pathogenic to the parrot (*Melopsittacus undulatus*) by inhalation and ingestion, producing a thermolabile necrotizing toxin and an irritant substance with a localized action.

2360. Sági (T.) & Lapis (K.). **Unter dem Einfluß der Cortisonbehandlung entstehende Lungenaspergillose bei Ratten.** [Aspergillosis of the lungs induced

by cortisone treatment in rats.]—*Acta microbiol. Acad. Sci. hung.*, 3, 4, pp. 337–340, 1956.

Of 40 rats infected with MI Sarcoma and treated with 20 mg. of cortisone daily until death ensued (on average after 31 days) eight were found at autopsy to have greyish-white, peppercorn-sized nodules in the lungs, two of which were due to *Aspergillus* infection [species undetermined] and six to unspecified bacterial infection. Twenty-three rats infected with Guérin sarcoma, which received 5 mg. per day, died after an average of 12 days: the nodules which were present in the lungs of 12 of these were attributable in 11 instances to aspergillosis (1 bacterial). Diagnosis was based on sections stained by the Hotchkiss–McManus technique and in some cases on culture also. Controls were free of mycotic and bacterial infection.

2361. Reiss (F.) & Caroline (Leona). **Studies with Blastomyces dermatitidis growth inhibitors.**—*Arch. Derm. Syph., Chicago*, 71, 4, pp. 500–506, 1955.

The authors report from the Department of Dermatology and Syphilology, New York University Postgraduate Medical School, that *Blastomyces dermatitidis* is inhibited *in vitro* by trimeton.

2362. Hawley (C.) & Pelson (B.). **Roentgen aspects of intrathoracic blastomycosis.**—*Amer. J. Roentgenol.*, 75, 4, pp. 751–757, 6 figs., 1956.

The authors discuss the pulmonary findings in 17 cases of North American blastomycosis [*Blastomyces dermatitidis*], seen at the Cincinnati General Hospital, for which consecutive roentgenograms were available, and in eight cases from other Cincinnati institutions, for which only the initial pictures were available.

In five there were no abnormalities. In seven there was disseminated miliary nodulation throughout both lung fields, with prominent areas of confluence in three. In seven there were in one or both lungs irregular areas of ill-defined pulmonary density having an appearance indistinguishable from that often encountered in chronic reinfection tuberculosis: in all of these there was involvement of the pulmonary apex, though only in two was it confined to this region. In five there was homogeneous pulmonary consolidation, the lesion being solitary in each case and apparently segmental or subsegmental. In one there was a solitary lesion with rather well-defined lobulated margins, thought at first to be a neoplasm. Enlargement of lymph nodes was encountered in only three cases, being confined to the hilar nodes and never striking. Pleural involvement, represented by irregular thickening on one or more localized areas, was seen in ten cases. Where consecutive roentgenograms were available the pattern was commonly one of slow progression.

There are, evidently, no specific roentgenographic signs in this disease, but the association of pulmonary changes with disproportionate pleural involvement, or rib destruction, may afford a useful pointer.

2363. Ausherman (R. J.), Sutton (H. H.), & Oakes (J. T.). **Clinical signs of blastomycosis in Dogs.**—*J. Amer. vet. med. Ass.*, 130, 12, pp. 541–542, 1957.

From four years of clinical experience in a small practice at Lexington, Kentucky, the authors conclude that canine blastomycosis (*Blastomyces dermatitidis*) [2, No. 969] falls into three types, viz., chronic respiratory (affecting 43 of the 55 cases comprised in the present series), skeletal, and acute generalized. Diagnosis may be based on characteristic respiratory changes, typical skin lesions, and the radiographic demonstration of abnormally dense masses dorsal to the heart, but serological and cultural confirmation should always be obtained.

2364. Schwarz (J.) & Goldman (L.). **Epidemiologic study of North American blastomycosis.**—*Arch. Derm. Syph., Chicago*, 71, 1, pp. 84–88, 1 map, 1955.

This paper, from the Departments of Dermatology and Pathology, the College of Medicine, University of Cincinnati, summarizes details of 101 cases of North American blastomycosis [*Blastomyces dermatitidis*] treated in the first six months of 1953.

2365. Wilson (J. W.), Cawley (E. P.), Weidman (F. D.), & Gilmer (W. S.). **Primary cutaneous North American blastomycosis.**—*Arch. Derm. Syph., Chicago*, 71, 1, pp. 39–45, 3 figs., 1955.

The authors give details of four cases of *Blastomyces dermatitidis* infection, all known to have been initiated by accidental percutaneous inoculation. Two of the cases have recently been reported [2, No. 264], while another is here reported for the first time. In each a chancriform lesion developed at the site of inoculation, accompanied by lymphangitis and lymphadenopathy limited to the involved extremity, and there was a strong tendency towards spontaneous recovery. Thus in these, the only established instances of percutaneous inoculation, the infection ran a course contrasting markedly with that of the familiar chronic cutaneous form of the disease, popularly supposed to result from this type of inoculation. The authors support the view that chronic cutaneous infection is a form of disseminated disease, probably resulting from a focus in the lungs.

2366. Knight (V. H.) & Wilson (W. W.). **Systemic blastomycosis : report of a case.**—*J. Fla med. Ass.*, 42, 4, pp. 275–277, 1955.

From the Municipal Hospital, Tampa, Florida, the authors describe a case of systemic blastomycosis (*Blastomyces dermatitidis*) in a 56-year-old male, who responded very favourably to stilbamidine therapy (total of 4·2 gm. in 30 days).

2367. Taschdjian (Claire L.). **Routine identification of Candida albicans : current methods and a new medium.**—*Mycologia*, 49, 3, pp. 332–338, 1957.

At the Department of Pediatrics, Maimonides Hospital, New York, 19 'recalcitrant' strains of *Candida albicans*, representing approximately one-third of a series of isolates from oral thrush, skin lesions, and the faeces of newborn infants, failed to produce chlamydospores and/or mycelium on rice infusion agar, whether or not this was enriched in various ways. These strains, with one 'normal' strain which had produced chlamydospores on the medium within 24 hours, and one strain each of six other *C.* spp., were examined on five media recommended for the gross or microscopic identification of *C. albicans* (Nickerson's medium (ortho); peptone agar [2, No. 114]; bacto chlamydospore agar [2, No. 341]; dextrose-peptone-tween 80 agar [2, No. 1614]; and cream of rice infusion-tween 80 agar). The best results were obtained with the last-named medium, described here for the first time ('cream of rice', 10 g.; agar, 10 g.; tap water, 1000 ml.; and tween 80, 10 ml.): the non-pathogenic species formed mycelium only.

It appeared that neither deficiency in trace metals, vitamins, minerals, or amino acids, nor the age of the culture, had any bearing on the inhibition of chlamydospore formation.

2368. Fahlberg (W. J.), Dukes (C. D.), & Guthrie (R. K.). **Rapid identification of Monilia (Candida) albicans.**—Abs. in *Tex. Rep. Biol. Med.*, 15, 1, p. 65, 1957.

Grown on human blood agar under 8 to 10 per cent. carbon dioxide tension at 37° C., *Candida albicans* produces filamentous colonies within 48 hours. In

a study of 149 strains, comprising 87 of *C. albicans*, 38 of *C. tropicalis*, 9 of *C. krusei*, 12 of *C. stellatoidea*, and 3 of *C. pseudotropicalis*, the false-positive and false-negative errors totalled 7·4 per cent. The method was found to be significantly more accurate than culture on Nickerson's chlamydospore agar (ortho medium) or Littman's ox gall agar. Serological tests with chlamydospore and yeast cell antisera prepared in the rabbit did not yield specific agglutination.

2369. Widra (A.). **An improved fermentation method for rapid identification of Candida species.**—*J. infect. Dis.*, 100, 1, pp. 70–73, 1957.

A method for the determination of fermentation reactions in *Candida* spp. [2, No. 799 *et passim*] is described from the Medical School, University of North Carolina, Chapel Hill. It involves the use of phenol red agar base deeps containing sugars in 3 per cent. concentration, a vaspar seal being poured directly on the inoculated medium. Incubation takes place at 37° C. and readings for acid and gas are made after one, three, and five days.

The status of *C. stellatoidea* [2, No. 1884] is discussed.

2370. Csillag (A.). **Contribution to the taxonomical classification of the so-called Pneumocystis carinii.**—*Acta microbiol. Acad. Sci. hung.*, 4, 1, pp. 1–8, 1 fig., 1957.

At the State Institute of Hygiene, Budapest, both a *Saccharomyces* sp. isolated from abraded lung tissue of premature infants who had died of interstitial pneumonia, and *Candida tropicalis* are stated to have given rise to octosporous forms resembling *Pneumocystis carinii* on media containing corticotropin and penicillin. It is suggested on the grounds of experimental evidence that *P. carinii* is the non-specific form of several closely related blastomycetes.

After the completion of this paper the author received Schmid's study (*Frankf. Z. Path.*, 66, p. 456, 1955), in which the mycotic nature of *P. carinii* was demonstrated and the agent of interstitial pneumonia identified as *S. fragilis*.

2371. Winsten (S.). **A biochemical and morphological study of a pathogenic fungus, Candida albicans.**—*Diss. Abstr.*, 16, 12, p. 2284, 1956.

At Rutgers University cysteine or cysteine hydrochloride at concentrations ranging from 0·03–1·0 per cent. inhibited the growth *in vitro* of all both avirulent and virulent strains of *Candida albicans*, the effect being directly proportional to the concentration. Cysteine in both forms also increased the survival time of mice inoculated intravenously, while cortisone did not. Avirulent strains growing on vitamin-free medium did not react as markedly to the addition of vitamins as did virulent strains. It is stated that virulence was inversely related to the degree of filamentation [cf. 2, No. 2117].

2372. Moran (Alice B.), & Cronin (M. T. I.). **The in vitro sensitivity to nitrofurans of organisms isolated from the uteri of Thoroughbred Mares.**—*J. comp. Path.*, 67, 1, pp. 106–109, 1957.

The results of *in vitro* tests of several nitrofuran compounds against bacteria and fungi isolated from the genital tract of mares were described. Furaspor, the only nitrofuran used against fungi, was tested against 10 strains of *Candida tropicalis* and 5 strains of *C. parakrusei*. A fungistatic effect was evident at a concentration of 20 mg. per 100 ml., and the drug was fungicidal at 30 mg. per 100 ml. except against two strains of *C. parakrusei*.

2373. Carpenter (Anna M.). **Studies on Candida. II. Sensitivity tests on strains of Candida.**—*Antibiot. & Chemother.*, 5, 5, pp. 255–262, 3 figs., 1955.

At the Department of Pathology, University of Pittsburgh, the author used the sensitivity disk technique with blood agar plate cultures in a study of the sensitivity of *Candida* strains to one hundred substances. The strains under study comprised 50 recent isolates of *C. albicans*, 6 of *C. parapsilosis*, and 6 of *C. tropicalis*, as well as 11 of *Candida* species obtained from standard culture collections.

Enhancement of growth was noted with some of the substances, including chlorotetracycline [aureomycin], methyl and propyl p-hydroxybenzoate, and benadryl, and this effect was greater with the fresh isolates than with the stock cultures: benadryl produced enhancement in 70 per cent. of the fresh isolates but none of the stock cultures. Of a small number of substances found to exert an inhibitory action only sodium caprylate seemed to show promise.

2374. Drouhet (E.) & Vieu (Mme M.). **Facteurs vitaminiques de croissance des Candida.** [Vitamin factors in the growth of *Candida* species.]—*Ann. Inst. Pasteur*, 92, 6, pp. 825–831, 3 graphs, 1957. [English summary.]

Of 110 strains of *Candida* of human origin studied for their vitamin requirements [2, No. 1048], 106 were dependent on biotin for growth, while nicotinic acid was also essential to 13 of *C. pseudotropicalis*. Of 30 isolates of the *C. krusei* group, 26 resemble *C. parakrusei* in their multiple vitamin demands, the four exceptions being auxo-autrophic. No differences were observed between the physiological characters of newly isolated and old laboratory strains.

2375. Young (Genevieve), Krasner (R. I.), & Yudkofsky (P. L.). **Interactions of oral strains of Candida albicans and lactobacilli.**—*J. Bact.*, 72, 4, pp. 525–529, 4 figs., 3 graphs, 1956.

At the Department of Biology, Boston University, Massachusetts, oral strains of *Candida albicans* and *Lactobacillus acidophilus* were inoculated together into peptonized milk broth containing 1 per cent. glucose, and growth curves obtained by plating out at intervals on selective media (Sabouraud's agar with 4 per cent. maltose, not acidified, for *Candida*; and Rogosa's medium for the lactobacilli). Comparison of these curves with those of the organisms growing alone on the same medium revealed that in mixed cultures there was a partial inhibition of all strains of *Candida*, and a stimulus to the lactobacilli. There was a reduction of pH in the mixed culture, reflecting an accumulation of lactic acid, and it was found that when *C. albicans* in pure culture was exposed to lactic acid the inhibition achieved ran parallel with that in the mixed cultures at corresponding levels of lactic acid accumulation. Also it was found that the lactobacilli could be grown in vitamin-deficient media, but only in the presence of *Candida*. These findings were taken to suggest that in the normal mouth there exists a balance, the lactobacilli producing lactic acid which checks the excessive development of *Candida*, while the latter perhaps provides a nutritional stimulus for *Candida*.

In another study to which brief reference is made the authors recorded the incidence of *C. albicans* in the sputum of healthy young adults during 1949–50 and 1954–5. Of the 584 sputum samples examined over the first period 9·7 per cent. yielded *Candida* counts of over 1,000 per ml. of sputum: the comparable figure for the second period, in which 111 samples were examined, was 47·8 per cent. It is considered that the use of antibiotics may have brought about this increased incidence in healthy mouths by upsetting the aforementioned balance.

2376. Vogel (R. A.). **Heat-stability of Candida albicans and Saccharomyces cerevisiae haemagglutinating antigens.**—*Proc. Soc. exp. Biol., N.Y.*, 95, 2, pp. 287–290, 1957.

The thermostability of erythrocyte-sensitizing substances from *Candida albicans* and *Saccharomyces cerevisiae* was investigated at the Emory University School of Medicine, Atlanta, Georgia. Immersion in a water bath at 70° C. or 15 min. autoclaving at 121° under 15 lb. pressure enhanced the activity of the antigens in *C. albicans* and inactivated those of *S. cerevisiae*. The erythrocyte-sensitizing antigen common to both organisms is believed to be more resistant to heat than the type-specific. Heat treatment did not affect the activity of the whole yeast-cell antigens of either species.

2377. Di Bella (A.). **Costanza del fenomeno di interferenza sull'azione antibatterica dei nuovi antibiotici in presenza di miceti.** [Constancy of interference by fungi in the antibacterial action of the new antibiotics.]—*Nuov. ann. ig. Microbiol.*, 7, 1, pp. 65–70, 3 graphs, 1956. [English summary.]

In vitro tests at the Institute of Hygiene, Modena University, Italy, of the effect of the new antibiotics neomycin, acromycin, erythromycin, and viomycin upon various bacteria, alone and in association with *Candida albicans*, confirmed that the concentration for effective inhibition was much higher in the presence of *C. albicans*. Thus, for *B.* [*Escherichia*] *coli* alone the minimum inhibiting concentrations were, respectively, 3·91, 1·95, 62·5, and 62·5 μg. ml., whereas against this organism together with *C. albicans* they were all over 1,000 μg. ml.

2378. Carpenter (Anna M.). **Studies on Candida. IV. Quantitative measurement of growth enhancement using therapeutic agents on members of the genus.**—*Antibiot. & Chemother.*, 5, 5, pp. 270–272, 1 fig., 1955.

Following a study of the growth of *Candida albicans*, as revealed by the formation of sediment in Hopkins vaccine tubes after 48 hours' growth, Woods *et al.* [1, No. 1942] reported that antibiotics had no stimulating or depressing effect. In the present study, conducted at the Department of Pathology, University of Pittsburgh, and the Laboratories of the Children's Hospital, Pittsburgh, growth curves were plotted, by three methods, for strains of *C. albicans*, *C. tropicalis*, and *C. pseudotropicalis* in glucose acid broth supplemented with various levels of chlorotetracycline [aureomycin].

All curves had reached the same level by 48 hours, but inhibition and enhancement of growth did occur, varying with the concentration of antibiotic and differing from strain to strain. These effects were best observed from the 18th to the 36th hour.

2379. Pinkerton (Mary E.) & Patterson (M.). **The effect of some selected antibiotics on experimental candidiasis.**—*Tex. Rep. Biol. Med.*, 15, 1, pp. 50–58, 1957.

At the University of Texas Medical Branch, Galveston, neomycin, aureomycin, and achromycin (tetracycline) were found to be innocuous to mice when injected intraperitoneally at a dosage of 2 mg. per mouse but did not protect against experimental *Candida albicans* infection. Mycostatin at the same level was toxic, but at 0·5 mg. it was harmless and prevented any infection by *C. albicans*. Except for a delay in the average time of death, neomycin exerted no protective influence.

2380. Roth (F. H.) & Murphy (W. H.). **Lethality of cell-free extract of Candida albicans for chlortetracycline-treated Mice.**—*Proc. Soc. exp. Biol., N.Y.*, 94, 3, pp. 530–532, 1957. [BA. 32:955]

At the Department of Bacteriology and Immunology, University of Minne-

sota, 45 minutes' exposure to supersonic vibration of viable *Candida albicans* cells at 4° C. released a substance lethal to mice treated with aureomycin by intraperitoneal injection (1 mg. per 10 gm. body weight) 10 minutes before inoculation. Combined with oxytetracycline the supersonic extract was only slightly active, and in association with chloramphenicol or streptomycin it exerted no effect.

2381. Roth (F. J.), Friedman (J.), & Syverton (J. T.). **Effects of roentgen radiation and cortisone on susceptibility of Mice to Candida albicans.**—*J. Immunol.*, 78, 2, pp. 122–127, 6 graphs, 1957.

Pre-treatment of adult Swiss albino mice at the Department of Bacteriology and Immunology, University of Minnesota, with cortisone and X-rays, either singly or in combination, reduced inherent resistance to experimental infection by *Candida albicans* [cf. 2, No. 49]. A single dose of whole-body X-radiation of 100 to 400 r. enhanced susceptibility more effectively than did cortisone in single graded subcutaneous doses of 2 to 7·5 mg. The depressive action on the host of the two treatments in combination exceeded that exerted by any dose of either agent singly, indicating the synergistic nature of the association.

2382. Scherr (G. H.). **The effect of hormones on experimental moniliasis in Mice. I. Sex hormones, cortisone, and somatotrophic hormone. II. Gonadotropins.**—*Mycopathologia*, 8, 1, pp. 62–72, 1 graph; 73–82, 1957.

I. In experiments in which testosterone or oestradiol, alone and in combination with cortisone and somatotrophic hormone, were administered intramuscularly to male and female mice suffering from moniliasis [*Candida albicans*], it was found these sex hormones played an important part in modifying the course of the infection. Testosterone had a marked synergistic activity with cortisone in increasing the severity of infection in both sexes. Furthermore a mixture of testosterone and cortisone was markedly toxic for male animals though neither substance used alone at the same level was toxic [cf. 2, Nos. 1073, 1619]. It is concluded that the sex of the animal plays a major role in determining the response of normal or infected animals treated with cortisone and/or somatotrophic hormones. Possible clinical implications are discussed.

II. It was found that the course of systemic moniliasis in mice could be improved or aggravated by the administration of various gonadotrophic hormones, depending on such conditions as the severity of infection, the sex of the animal, the doses used and their schedule and route of administration, and the source of the gonadotropin.

2383. Drouhet (E.) & Simonnet (G.). **Candidose digestif chez le Lapin.** [Digestive candidosis in the Rabbit.]—*Ann. Inst. Pasteur*, 93, 2, pp. 237–245, 2 graphs, 1957. [English summary.]

Following the oral administration of chlorotetracycline [aureomycin], the inoculation of rabbits by the same route with *Candida albicans* [cf. 2, No. 1343] resulted in infection of the upper digestive tract. Slight intestinal involvement was also shown by the occurrence of the organism in the faeces. Moreover, the histological examination of a section of the tongue revealed yeasts and hyphae in the papillae despite the absence of clinical lesions.

Intragastric inoculation with *C. albicans* resulted in sufficiently profuse and prolonged infection for the evaluation *in vivo* of the anti-fungal properties of resin-caprylate, which exerted a definite prophylactic action but failed to sterilize the digestive tract completely.

2384. Mehnert (Brigitte). **Über das Vorkommen und die biologische Bedeutung von Hefen im Kot von Menschen und Tieren.** [On the occurrence and biological significance of yeasts in human and animal faeces.]—*Zbl. Bakt.*, Abt. 2, 110, 1–5, pp. 50–81, 1 pl., 1957.

The material used in the important study herein fully reported from the Animal Health Institute, University of Munich, Germany, comprised 80 samples of human faeces, 420 from animals, a number of foodstuffs, and other materials. *Candida albicans* was the predominant species in the 21 positive human specimens [2, No. 1879], having been isolated 8 times; others represented were *C. krusei* (4), *C. mycoderma* (3), *Torulopsis candida* (2), and *Saccharomyces carlsbergensis*, *C. zeylanoides*, *C. albo-marginata*, and *C. pseudotropicalis* (1 each).

C. krusei (sometimes as the 'R' form) was isolated from 88 out of 293 samples of pig manure, *C. mycoderma* and *C. guilliermondi* from 14 each, *C. catenulata* from 3, and *C. humicola* from 2. Only 5 of the 50 samples from dogs were positive, 4 yielding *C. mycoderma* and 1 *C. albicans*. Of 50 specimens from cattle, 3 each contained *C. krusei* and *C. mycoderma* and 1 each *C. albicans*, *C. lipolytica*, and *Trichosporon cutaneum*. *C. krusei* developed from the single positive sample out of 25 from goats, while 1 of 2 specimens from elephants yielded *C. albicans* and the other *C. utilis*.

In feeding tests on white mice with 25 of the isolated yeasts, species of *Saccharomyces*, *Torulopsis*, and *Rhodotorula*, seldom or never occurring in faeces but widespread on foodstuffs, were less readily culturable from the excreta than the *C.* spp. commonly occupying the intestinal tract (with the exceptions of *C. pseudotropicalis* var. *lactosa* and the R-form of *C. krusei*, which behaved like the first-named group). After discontinuance of the yeast feeding only *C. albicans*, the (typical) S-form of *C. krusei*, and *Trichosporon cutaneum* remained capable of multiplication for any length of time (the last-named for up to 20 days). Analogous results were obtained in *in vitro* experiments with mixed cultures of the yeasts and *Escherichia coli*, indicating that the use of fodders contaminated by living beer yeasts is innocuous, whereas the ingestion of *C.* spp. may be attended by some risk.

2385. Heymer (T.) & Doepfmer (R.). **Über die Pilzflora der Mundhöhle.** [On the mycoflora of the oral cavity.]—*Arch. klin. exp. Derm.*, 204, 4, pp. 374–383, 6 figs., 1957.

Of 230 cultures on Sabouraud's medium, with and without penicillin and streptomycin supplements, from the oral cavity of adult and infant patients (the former including sufferers from diabetes and cachexia) at the Skin Clinic of the University of Würzburg, Germany, 71 per cent. yielded fungi of 42 different species. *Candida albicans* predominated, being isolated 78 times (34 per cent.) from all groups. Among the other species represented were *C. krusei*, *C. tropicalis*, *C. pseudotropicalis*, *Actinomyces israeli*, and various moulds.

2386. Mackinnon (J. E.) & Artagaveytia-Allende (R. C.). **Aspectos actuales de la moniliasis.** [Present-day aspects of moniliasis.]—*An. Fac. Med. Montevideo*, 41, 6, pp. 275–292, 1956. [English summary.] [105 refs.]

On the basis of personal experience in Uruguay [1, No. 328] and a study of the literature, with special reference to clinical and experimental pathology, the authors emphasize the following points as representing current trends in the evaluation of moniliasis (*Candida albicans*). The percentage of persons harbouring the fungus in the digestive tract is so high that it should be regarded as a normal occupant of the intestine. The development of the organism,

which possesses a relatively fixed pathogenicity of a very low order, in this region depends on decreased resistance in the host, the status of the antagonistic flora, potentiation by tetracycline antibiotics, and other factors which do not involve any change in its virulence. The abnormal growth of the fungus in the digestive tract and in natural cavities produces the classic moniliasis of the mucous membranes, sometimes accompanied by haematogenous dissemination culminating in the formation of metastatic lesions. The latter show no evolutive tendency, being in fact usually regressive, and they should heal naturally after sterilization of the primary active focus. Deep-seated lesions due to various causes may be complicated by secondary infection with *C. albicans* spreading through the blood stream.

2387. Helms (P.). **Pulmonal moniliasis. Hyppigheden af Candida albicans i expectorater.** [Pulmonary moniliasis. Frequency of *Candida albicans* in expectorations.]—*Ugeskr. Læg.*, 118, 14, pp. 379–482, 1 fig., 1956.

Following a brief summary of general information on pulmonary moniliasis (*Candida albicans*), the author reports two cases from Denmark, both in males (aged 29 and 68), which developed as a sequel to antibiotic therapy. Diagnosis was based on examination of sputum at the Serum Institute, Copenhagen. The sputa of 113 soldiers at Viborg barracks were cultured on a fish soup agar plus 4 per cent. glucose, with positive results in 51 (45 per cent.). In a further examination of the sputa of 206 patients at the Viborg and Thisted sanatoria, 77 per cent. were positive for *C. albicans*.

2388. Lienthal (B.), Harris (R.), & Arnott (A. J.). **Moniliasis. A report of three cases.**—*Oral Surg.*, 9, 6, pp. 632–637, 4 figs., 1957.

Three cases of persistent oral thrush (*Candida albicans*) are reported from the United Dental Hospital of Sydney, Australia, in females aged 36, 17, and 67. They demonstrate the main aspects of the etiology of the disease, namely, that antibiotic therapy, notably with penicillin and aureomycin, causes a change in the oral flora and that an underlying hormonal imbalance influences the infectivity of the fungus.

2389. Gerloczy (F.), Schmidt (K.), & Scholz (Magda). **Beiträge zur Frage der Moniliasis im Säuglingsalter.** [Contributions to the problem of moniliasis in infancy.]—*Ann. paediat., Basel*, 187, 1–2, pp. 119–133, 4 figs., 3 graphs, 1956. [English and French summaries.]

From a study of the records of 11,297 infants at the First Children's Clinic of the Medical University, Budapest, the authors calculate that the incidence of moniliasis (*Monilia* [*Candida*] *albicans*) has risen from 4 per cent. during the seven years preceding the introduction of antibiotic therapy to 6 per cent. during the corresponding period thereafter. A case of the disease, illustrating the emergence of a new clinico-pathological picture, is fully described with autopsy findings. In a three-month-old, marasmic, premature infant infections associated with dehydration led to the haematogenous spread of a clinically healed thrush to the lungs and ultimately to the left renal pelvis, the former occupied by tuberculoid granulomata and the latter by a mass of fungal elements.

2390. Vince (S.) & Csillag (Anna). **Beiträge zur Klinik der Candidiase (Monilien-sepsis) des Säuglingsalters.** [Clinical study of moniliasis (*Monilia* sepsis) in infancy.]—*Ann. paediat., Basel*, 187, 1–2, pp. 134–151, 6 figs., 1956. [English and French summaries.]

Three cases of generalized moniliasis (*Candida albicans*) in female infants

are fully described from the Medical University and Institute for General Hygiene, Budapest [see preceding entry]. The illness developed as a sequel to massive combined antibiotic therapy for the relief of recurrent influenza, pyelocystitis, and pneumonia. The fungus was isolated from the blood of all three patients, from the urine of one, and from the bronchial secretions in another. The etiology and pathogenesis of generalized moniliasis, the function of antibiotics in its causation, clinical aspects of the disease, and treatment are discussed in the light of the present findings.

2391. Hottinger (A.). **Klinischer Beitrag zum Vorkommen von Moniliasis im Kindesalter.** [Clinical contribution to the incidence of moniliasis in childhood.] —*Ann. paediat., Basel*, 187, 3, pp. 218–237, 1 fig., 1 graph, 1956.

A full report is presented from the University Children's Clinic, Basel, Switzerland, of four fatal cases of moniliasis (*Candida albicans*) occurring during the last 2½ years and involving the gastro-intestinal tract, the lungs, the skin, and the liver; three of these patients were also suffering from severe congenital defects. Seven other children were cured of generalized moniliasis by therapy with paraben or mycostatin. The development of the illness in all 11 cases had been preceded by attempts at therapy with sulphonamides, antibiotics, or other disinfectants. In a further 27 patients infection was localized.

2392. Wolff (O. H.), Petty (B. W.), Astley (R.), & Smellie (J. M.). **Thrush oesophagitis with pharyngeal incoördination.**—*Lancet*, 268, 6872, pp. 991–994, 1955.

This report describes thrush oesophagitis [*Candida albicans*] in three newborn infants, in whom a disorder of swallowing led to aspiration pneumonia. The authors summarize other infections which have been successfully treated with stilbamidine and with hydroxystilbamidine, and note that this has not been previously used in this condition. They recommend a dose of 5 mg. per kg. body weight, repeated twelve-hourly, for four to six days. They found it best given slowly by continuous intravenous drip into a scalp vein, because quicker or more concentrated injection caused local venous spasm and later thrombophlebitis. Secondary pyogenic invasion required additional treatment.

2393. Waisman (M.). **Submucous thrush: chronic moniliasis of the buccal mucous membrane.**—*Sth. med. J.*, 48, 7, pp. 694–699, 2 figs., 1955.

The author records his experience with oral submucous thrush and perlèche, with special reference to eight cases of the former in otherwise healthy patients. Mechanical factors such as loss of teeth, leading to exaggerated folding of the commissures of the lips, predispose to perlèche, in some cases of which *Candida albicans* infection becomes entrenched. Such lesions respond well to local fulguration under anaesthetic after curetting the mucous membrane down to the corium, followed by daily treatment with a 6·5 per cent. solution of methylrosaniline chloride. To prevent recurrence, prosthodontic correction of the 'bite' and the restoration of the proper contour of the mouth is necessary.

2394. Gready (T. G.). **Gynben in the treatment of vaginitis.**—*Miss. Doct.*, 33, 8, pp. 213–214, 1956.

The author reports good results in the treatment of vaginal infections with a proprietary vaginal insert, 'gynben' (Bentex Pharmaceutical Co., Houston, Texas), at the Baylor University College of Medicine. One hundred cases, including 48 of *Monilia* [*Candida*(?) *albicans*], were studied, and all patients were instructed to apply the inserts daily for one month following a douche

(2 quarts water), after which period the same treatment was applied through three further menstrual cycles, being however restricted to the last three days of the menstrual period and the two days following the menses. Patients with moniliasis were required to employ a detergent douche (one level tablespoonful of 'Tide' in two quarts) before the plain water douche. These cases were followed for a minimum of three months by microscopical study and culture. Forty-seven (97 per cent.) of the cases of moniliasis were cured. Sensitivity was rarely encountered and not serious. The composition of the preparation is: 100 mg. diiodohydroxyquinoline, 500 mg. sulphadiazine, 0·1 mg. stilbestrol, 0·54 mg. sodium lauryl sulphate, 6 mg. tartaric acid, 120 mg. boric acid, 0·66 g. dextrose, 0·66 g. lactose, and 0·66 g. kaolin.

2395. Pundel (J. P.) & Ost (E.). **Mycoses vulvovaginales et antibiotiques.** [Vulvo-vaginal mycoses and antibiotics.]—*Brux. méd.*, 35, 11, pp. 526–533, 1955.

Of 68 cases of vulvo-vaginitis caused by *Candida albicans* in non-pregnant women, 29 appeared to have resulted from intensive antibiotic treatment for various conditions.

2396. Lang (W. R.), Stella (J. G.), & Benchakan (V.). **Nystatin vaginal tablets in the treatment of candidal vulvovaginitis.**—*Obstet. Gynec., N.Y.*, 8, 3, pp. 364–367, 1956.

In this study from the Department of Obstetrics and Gynecology, Jefferson Medical College and Hospital, Philadelphia, it is reported that of 70 cases diagnosed by use of Nickerson's medium as vaginal moniliasis [*Candida* spp.] 46 were pregnant, while in the remaining 24 the condition was associated with diabetes mellitus (9 cases), previous broad-spectrum antibiotic therapy (4), recent treatment for trichomonal infection (2), local oestrogen treatment for atrophic vaginitis (1), and local cortisone treatment for the same condition (1). All of these patients were directed to insert single tablets, each containing 100,000 units of nystatin [mycostatin] plus 0·95 g. lactose, into the vagina twice daily for ten days and to report for re-examination on the fourteenth day. All patients reported relief of symptoms within a few days, though there was mild irritation in some. Of the 24 non-pregnant women, 19 were cured by the first course and the 3 of the remaining 5 who could be followed were cured at the second. Cure was achieved with all the pregnant women, though approximately one-half needed more than one course.

2397. Bittencourt (J.) & Camara (A.). **Micose vaginal.** [Mycosis of the vagina.] —*Rev. Gynec. Obstet., Rio de J.*, 50, 3, pp. 167–196, 1956. [English and French summaries.]

At the Professor O. Coutinho Maternity Clinic, Recife, Brazil, the authors studied the incidence of vaginal moniliasis (*Candida* spp.) in 224 patients, of whom 117 were pregnant, while the remainder had various gynecological complaints. *Candida* spp. were found in 65 per cent. of all cases, comprising 69 per cent. of pregnant women and 61 per cent. of the remainder. A table is presented showing for each case the symptoms, diagnosis, and the species isolated. These were: *C. pseudotropicalis* (the most common), *C. krusei*, *C. parakrusei*, *C. stellatoidea*, *C. albicans*, and *C. guilliermondi* (one case only).

2398. Dawkins (Sylvia M.), Edwards (Joan M. B.), & Riddell (R. W.). **Fungal infection of the female genital tract.**—*Med. Ill.*, 9, 12, pp. 767–772, 6 figs., 1955.

This is a brief account of vulvo-vaginal moniliasis (*Candida albicans*) covering predisposing factors, clinical features, pathology, differential diagnosis, laboratory diagnosis, and treatment.

2399. Jennison (R. F.) & Llywelyn-Jones (J. D.). **Treatment of monilial vaginitis.**—*Brit. med. J.*, 5011, pp. 145–146, 1957.

Fifty-seven women patients, with vaginal discharge and confirmed presence of *Candida*, were treated with nystatin [mycostatin] pessaries. Thirty-six patients received treatment with 1 per cent. aqueous gentian violet. The superiority of treatment with mycostatin is noted.

2400. Hengerer (A. D.) & Covert (S. V.). **A simple, rapid procedure for detection of Candida.**—*GP* (*Kansas City, Mo.*), 13, 4, pp. 88–89, 1 fig., 1956.

From the Albany Medical College, Albany, New York, the authors recommend Nickerson's medium as suitable for use by practising physicians wishing to diagnose vaginal moniliasis without referring material to a laboratory. Of 90 isolates diagnosed in this way and referred to the laboratory for confirmation, 69 were *Candida* spp., 9 were yeasts which could not be identified owing to their association with filamentous fungi, and 12 were yeasts not fulfilling the criteria for *Candida*.

2401. Weinberg (M. S.) & Jalandoni (Ramona). **The office diagnosis of moniliasis.**—*N.Y.St. J. Med.*, 56, 13, pp. 2100–2101, 2 figs., 1956.

The results of the random culture on Nickerson's medium at the Jackson Heights Clinic, New York, of vaginal smears from 93 women are discussed and tabulated. Although clinically asymptomatic, 24 (25·8 per cent.) of the patients were positive for *Candida albicans*.

2402. Walz (D. V.), Hasenclever (H. F.) & McKee (A. P.). **A dual human infection with Candida albicans and Cryptococcus neoformans.**—*Amer. J. clin. Path.*, 26, 7, pp. 794–798, 3 figs., 1956.

From the Departments of Pathology and Bacteriology, State University of Iowa, the authors report a fatal case of mixed systemic infection with *Cryptococcus neoformans* and *Candida albicans*, in a four-year-old white boy [cf. 1, No. 1634].

2403. Mizuta (M.), Mizuta (W.), & Tōjyō (K.). **A case of acute diffuse moniliasis presumably caused by Candida pulcherrima.**—*Bull. Yamaguchi med. Sch.* 3, 1, pp. 11–17, 5 figs., 1955.

From the Yamaguchi Medical School, Ube, Japan, the authors describe in some detail the case of a 35-year-old man who contracted moniliasis (*Candida pulcherrima*) following antibiotic treatment for undiagnosed fever. The fungus was isolated from his blood shortly before death, and autopsy revealed diffuse infection with lesions principally affecting the lung, pericardium, liver, and kidneys. The fungus was not pathogenic for rabbits and cats.

2404. Hübschmann (K.) & Frágner (P.). **Interdigitale Candiasis der Gänserupferinnen.** [Interdigital candiasis of Goose-Pluckers.]—*Dermatologica, Basel*, 114, 2, pp. 112–117, 1957. [English and French summaries.]

From the Dermatological Clinic of the University, Prague, Czechoslovakia, the authors report an epidemic of interdigital eruptions among females engaged in plucking geese and ducks for poulterers. The causal organism was identified as *Candida albicans*.

2405. Stewart (G. T.). **Laboratory and clinical studies with nystatin in post-antibiotic mycotic infections.**—*Brit. med. J.*, 4968, pp. 658–660, 1956.

Investigation of throat swabs and sputum from a large number of patients attending the Croydon Group of Hospitals and Queen Mary's Hospital for

Children, Carshalton, showed *Candida* in over 10 per cent. of patients who had received oral antibiotics, notably of the tetracycline series. Superinfection was found to be more troublesome in children and in elderly people. Topical application of crude nystatin [mycostatin] and of a paste cleared mouth and pharyngeal infections. Mycostatin given with antibiotics was not wholly successful in preventing superinfection. Resistance to mycostatin was not found after passage *in vitro* or on isolation. Transient nausea was noted during oral administration of the drug but there were no other toxic effects.

2406. Bereston (E. S.). **Nystatin in the treatment of Candida albicans infections.**—*Sth. med. J.*, 50, 4, pp. 547–550, 4 figs., 1957.

From the Johns Hopkins University School of Medicine, Baltimore, Maryland, the author reports encouraging results in the use of mycostatin for the treatment of superficial infections by *Candida albicans*. Of 158 patients in the current series of trials, 116 were clinically cured and 22 improved after periods ranging from a few days in cases of perlèche and thrush to 24 weeks in onychomycosis. Three representative cases are briefly described. The antibiotic may be applied as (1) a 500,000-unit tablet administered two to eight times daily, (2) an ointment containing 100,000 units per g., or (3) a powder dissolved in milk or water to provide 100,000 units per ml.

2407. Vanbreuseghem (R.) & Eyckmans (R.). **Moniliase chronique résistante à nystatine.** [Chronic moniliasis resistant to nystatin.]—*Arch. belges Derm.*, 12, 3, pp. 323–326, 2 figs., 1956.

A case of chronic generalized moniliasis (*Candida albicans*) in a 55-year-old female is reported from Antwerp. Intensive local treatment with fungicides and massive oral doses of mycostatin (total of over 300 tablets in a month) failed to effect a cure.

2408. Wright (E. T.), Graham (J. H.), & Sternberg (T. H.). **Treatment of moniliasis with nystatin.**—*J. Amer. med. Ass.*, 163, 2, pp. 92–94, 1957. [*B.H.*, 32, p. 445.]

The authors report the results of treatment by nystatin [mycostatin], applied in a variety of ways, in 122 cases of moniliasis [*Candida albicans*], comprising 42 oral, 63 cutaneous, and 17 vaginal infections. For oral infection results were excellent in 19, good in 22, and fair in 1 case; in 16 the fungus could still be cultivated from the affected part after apparent clinical cure. For cutaneous infections the results were excellent in 25, good in 34, and fair in 4 cases; in 29 cases the fungus could still be isolated from the sites of lesions after clinical cure. For vaginal infections results were excellent in 9 and good in 8 cases; the fungus persisting in 8 after apparent clinical cure.

2409. Higdon (R. S.). **Intertriginous moniliasis in the Far East Command.**—*Arch. Derm. Syph., Chicago*, 74, 6, pp. 620–626, 1956. [*T.D.B.*, 54, p. 480.]

It is reported that every year, during the hot and humid summer season, acute intertriginous moniliasis [*Candida albicans*] of the groin area constitutes a serious problem among male personnel of the American armed forces stationed in the Tokyo area. Their close-fitting, heavy cotton uniforms, preventing adequate ventilation, are considered to be conducive to the infection, which has regularly affected between 200 and 300 men each year and which resolves spontaneously with the coming of the cool season. Until recently all attempts at treatment had proved unavailing, but now a nystatin [mycostatin] shake lotion prepared by adding four ground tablets [50,000 units each] of the antibiotic to a basal lotion consisting of 6 g. talc, 6 g. zinc

oxide, 6 ml. glycerine, 12 ml. bentonite magma suspension, and water *q.s.ad* 60 ml., applied three times daily, is giving excellent results. The lotion, which tends to deteriorate quickly, is stored in the refrigerator when not in use.

2410. Pohowalla (J. N.), Arora (M. M.), & Singh (B. N.). **Nystatin in treatment of oral moniliasis in Children.**—*Indian J. med. Sci.*, 11, 1, pp. 15–18, 1957.

Of 28 infants treated with mycostatin administered in doses of half to one teaspoonful of a flavoured powder three times daily (150,000 to 300,000 units total dosage), for the relief of oral moniliasis [*Candida albicans*] at the Mahatma Gandhi Memorial Medical College, Indore, 21 (75 per cent.) were clinically cured by the seventh day by when cultures were negative in 16 (60 per cent.) of the cases.

2411. Richard (J.). **Le traitement par la nystatine (mycostatine) des infections à Candida chez le Nourrisson et l'Enfant.** [Nystatin (mycostatin) treatment of *Candida* infections in Infants and Children.]—*Acta paediat. belg.*, 10, 1, pp. 5–11, 1956.

Four cases of oral, digestive, and generalized moniliasis (*Candida albicans*) in infants and children (the eldest three years) are reported from Tournai, Belgium, in which beneficial results followed treatment with mycostatin.

2412. Nilssen (W.). **Coexistent coccidioidomycosis of the meninges and pulmonary cavitation due to Coccidioides.**—*Calif. Med.*, 85, 1, pp. 39–41, 3 figs., 1956.

A fatal case of coexistent meningitis and pulmonary cavitation [1, No. 1146] due to *Coccidioides immitis* in a 28-year-old foreman of a ranch is reported from the Kern General Hospital, Bakersfield, California. The diagnosis was substantiated by serological tests and the microscopic detection of spherules in the meninges.

2413. Baker (O.) & Braude (A. I.). **A study of stimuli leading to the production of spherules in coccidioidomycosis.**—*J. Lab. clin. Med.*, 47, 2, pp. 169–181, 10 figs., 1 graph, 1956.

An account is given of studies at the University of Texas, South-western Medical School, Dallas, on spherule formation in strains of *Coccidioides immitis* isolated from five cases of the disseminated disease and grown on Difco Dubos liquid medium. Lapse-time photomicrographs demonstrated that although spatial hindrance (by glass beads or by other hyphae) halted mycelial growth, no spherules developed. When mycelium was placed in suspensions of living leucocytes neutrophiles migrated rapidly to the hyphae, engulfing single arthrospores and small fragments. On coming into contact with an intact hypha a neutrophile encircled it, forming a wide band, but was unable to penetrate the hyphal wall, and later swelled and disintegrated. It was concluded that this constituted another form of spatial hindrance, which would be encountered *in vivo*. When mycelium was exposed to normal human plasma containing frequently replenished neutrophils, growth was prevented, though it was unimpeded in plasma containing dead neutrophils or no neutrophils. Under these conditions phagocytosis was vigorous and spherules formed. The stages of spherule formation were followed in all strains. Photomicrographs of stained smears were made at intervals during the incubation of mycelia with leukocytes: after 12 hours, there was 'segmental swelling of some of the mycelia and beginning degeneration of other segments'. After 48 hours, definite segmentation had occurred and only 'ghosts' of the original mycelia were seen. After 78 hours, the first doubly refractile, thick-walled spherules containing

endospores were noted. These were more numerous subsequently, and after 108 hours no mycelia were found. Mycelial inhibition and spherule formation occurred whether leukocytes were suspended in normal plasma or in plasma with high antibody titres. Spherule formation was, however, more rapid in the latter.

It was also possible to provide *in vivo* evidence that the presence of neutrophils influences spherule formation. In infected human tissues mycelia were found only in walled-off pulmonary cavities and within an acellular meningeal focus. In both it seemed that the absence of leukocytes had permitted mycelial development which would not have occurred in their presence. In irradiated neutropenic mice there was a delay in spherule formation.

Mycelial growth was studied at various oxygen tensions. Growth occurred readily at over 2·5 per cent., but was inhibited under conditions approaching complete anaerobiosis. Under anaerobic conditions bodies resembling 'abortive spherules' formed in the mycelia. These resembled early stages of spherule formation in mycelia recently inoculated intraperitoneally in mice, and were identical in appearance with swellings on mycelia in the walled-off meningeal focus already mentioned, in which oxygen tension must have been very low. Anaerobiosis prevents both mycelial growth and the full development of normal spherules even in the presence of attacking neutrophils.

It is concluded that the neutrophils provided an insufficient cellular defence against the highly pathogenic strains of *C. immitis* used. They failed to destroy the fungus and encouraged spherule formation. That neutropenic animals experienced milder infections, with less tissue damage than normal ones, shows the futile or even harmful role of the leukocytes in coccidioidomycosis. It is, however, possible that strains producing mild disease may be more vulnerable to neutrophils than those used in the present study.

2414. Creitz (J. R.). **Atypical tissue forms of Coccidioides immitis resembling Blastomyces.**—*Amer. J. clin. Path.*, 26, 11, pp. 1254–1260, 7 figs., 1956.

From the Fitzsimons Army Hospital, Denver, Colorado, the author reports observations of budding and binary fission in *Coccidioides immitis*. The atypical forms were demonstrated both in infected material from human lesions, and in the tissues of experimentally infected mice, for each of more than 40 strains which were studied. All material was fresh, and the granulomas which developed at the junction of the spleen, liver, and stomach in intraperitoneally inoculated mice proved especially suitable for study. By mounting material between a sterile slide and cover slip, sealing with petrolatum to prevent aerobic mycelial growth and incubating—together with the microscope—at 37° C., it was possible to follow development in a particular cell for ten to 14 hours, after which growth ceased. The budding, various stages of which are figured, was most frequent in areas where spherules were maturing and endospores liberated into the surrounding tissue, which process was most active in experimentally infected mice four to ten days after inoculation. It occurred usually in the smallest spherules, about 4 μ in diameter, and seemed to result from protoplasmic pressure at a point where the wall had been thinned or softened. The attachment between parent and daughter cell was usually broad though occasionally narrow and constricted. The term 'binary fission' was used for cases in which the parent cell elongated, became somewhat constricted at its centre, and was then divided into approximately equal halves by the formation of a septum. The latter, which took about 12 hours to form, became double, each of the contours being continuous with the outer wall of the adjacent cell. Separation, where it occurred, usually took place before endospore formation.

2415. O'Hern (E. M.) & Henry (B. S.). **A cytological study of Coccidioides immitis by electron microscopy.**—*J. Bact.*, 72, 5, pp. 632–645, 32 figs., 1956.

Following a study by electron microscopy at the Department of Microbiology, University of Washington School of Medicine, Seattle, the authors report details of nuclear and protoplasmic structure in the yeast and mycelial phases of a strain of *Coccidioides immitis*.

2416. Friedman (Lorraine) & Smith (C. E.). **The comparison of four strains of Coccidioides immitis with diverse histories.**—*Mycopathologia*, 8, 1, pp. 47–53, 5 figs., 1957.

At the School of Public Health, University of California, the virulence of four strains of *Coccidioides immitis* was compared on the basis of percentage mortality in mice inoculated intraperitoneally with 100 viable particles. Three of the strains (one from soil which had been the source of mild infection, and subsequently taken through 30 transfers *in vitro* over 15 years; one from a cutaneous lesion of a non-disseminating infection; and one from a fulminating fatal infection, subsequently taken through two transfers *in vitro*) were approximately equal in virulence, causing death in between 64 and 76 per cent. of the mice. The fourth, which had been isolated 21 years earlier from a fatal disseminated infection, caused no mortality in 30 days, though at autopsy after 90 days 68 per cent. of inoculated mice exhibited gross lesions. With this strain an inoculating dose of one million particles was needed to produce, within 30 days, mortality and lesions equivalent to those produced by the other strains over the same period: its virulence was not enhanced by 12 passages in mice over a 6-month period. There appeared to be no correlation between severity of human infection and virulence for mice.

2417. Garb (J.) & Miller (O. B.). **Mycosis fungoides, tumor stage, coexistent with disseminated coccidioidomycosis.**—*Arch. Derm. Syph., Chicago*, 71, 1, pp. 59–65, 4 figs., 1955.

From the Department of Dermatology and Syphilology of the New York University Post-Graduate Medical School is reported a case, discovered at autopsy, of coexistence of the tumour stage of mycosis fungoides with disseminated coccidioidomycosis [*Coccidioides immitis*].

2418. Fostvedt (G. A.), Kingston (D. T.), Emmons (L. L.), & Voller (R. L.). **Coccidioidomycosis. Treatment with isonicotinic acid hydrazide.**—*Calif. Med.*, 85, 3, pp. 167–170, 1956.

From the Bailey Hospital, Chino, California, the authors report favourable results in the therapy of three cases of coccidioidomycosis (*Coccidioides immitis*) in negroes aged 22, 23, and 27 with isonicotinic hydrazide (niconyl). The first two patients, in whom the disease was already far advanced when the treatment was initiated, received 100 mg. three times daily for four months. In the third the symptoms were mild and abated after three weeks' treatment with niconyl (50 mg. thrice daily). They recurred, however, when the drug was discontinued but finally yielded to the higher dosage and longer course indicated above.

2419. Alznauer (R. L.), Rolle (C.), & Pierce (W. F.). **Analysis of focalized pulmonary granulomas due to Coccidioides immitis.**—*Arch. Path.*, 59, 6, pp. 641–655, 22 figs., 1955.

In this paper from the Surgical Pathology Service, United States Naval Hospital, San Diego, the authors describe the histology of solid and cavitated fibrocaseous granulomata surgically removed from the lungs of eleven adult male patients with apparent and inapparent *Coccidioides immitis* infection.

They give an historical review of the literature on pulmonary residuals from this infection, and discuss their medical importance and differential diagnosis from those resulting from histoplasmosis [*Histoplasma capsulatum*] and tuberculosis.

2420. Lexow (P.) & Borgen (P. H.). **Coccidioidomycosis ; report on a case of coccidioidomycosis pulmonum.**—*Acta med. scand.*, 155, 2, pp. 95–99, 7 figs., 1956.

From the Department of Surgery and Bacteriological Institute, the State Hospital, Oslo, details are given of a case of a 25-year-old Norwegian soldier who contracted coccidioidomycosis [*Coccidioides immitis*] while at El Paso, Texas, U.S.A. No diagnosis was made at that time but routine radiography two years later revealed a cavity in the lingula. As he was tuberculin negative a presumptive diagnosis of coccidioidomycosis was made, and confirmed by culture. Surgical intervention was not deemed necessary.

2421. Hugenholtz (P. G.). **Coccidioidomycosis. Enkele opmerkingen naar aanleiding van 37 geobserveerde gevallen.** [Coccidioidomycosis. Some remarks in connexion with 37 observed cases.]—*Ned. Tijdschr. Geneesk.*, 101, 26, pp. 1204–1212, 6 figs., 1957. [English summary.]

Coccidioidomycosis (*Coccidioides immitis*) is reviewed and a series of 37 primary cases observed in Arizona is described. With the great increase in international travel it is becoming increasingly important—even in non-endemic parts of the world, such as the Netherlands—to consider the disease in the differential diagnosis of pulmonary residuals.

2422. Levan (N. E.) & Einstein (H. E.). **Cortisone in coccidioidomycosis.**—*Calif. Med.*, 84, 3, pp. 193–197, 1956.

At the Kern General Hospital, Bakersfield, California, 19 patients (14 female) between 11 and 50 years old suffering from erythrema multiforme or erythrema nodosum, or both, due to infection by *Coccidioides immitis*, responded favourably to the oral administration of cortisone in total dosages of 350 to 775 mg. over a four- to six-day period. Five of the cases are reported in detail. There were no complications or undesirable sequels—specifically, no dissemination of the disease.

2423. Cordy (D. R.). **Symposium on granulomatous diseases. Part 2. Case 16.—Coccidioidomycosis in a Dog.**—*J. Amer. vet. med. Ass.*, 127, 945, pp. 522–523, 1955.

A two-month-old puppy which had exhibited malaise, mild fever, and a soft cough, was found at autopsy to have numerous grey, occasionally confluent foci, about 1 mm. in diameter, in the liver and lungs, while the spleen, kidneys, and various [unspecified] groups of lymph nodes were similarly but less severely affected. Diagnosis of coccidioidomycosis [*Coccidioides immitis*; cf. next entry] was based on liver sections stained by the method of Bauer. This method and that of Gridley gave the best differentiation of the organism.

2424. McGrath (J. T.). **Symposium on granulomatous diseases. Part 2. Case 19. Coccidioidomycosis in a dog.**—*J. Amer. vet. med. Ass.*, 127, 945, pp. 525–526, 1 fig., 1955.

A two-month-old Labrador puppy, kept in a kennel at Tucson, Arizona, until dispatched to Virginia by air, was found on arrival to be sick, with symptoms including dyspnoea, coughing, slight fever, moist tracheal râles, and slight inflammation of the larynx. The animal died after two weeks. At

autopsy the bronchial lymph nodes were swollen and firm, the cut surfaces appearing greyish white. A similar nodule was present in the right diaphragmatic lobe of one lung and another at the bifurcation of the bronchi. Section of the bronchial lymph nodes revealed extensive replacement of normal by inflammatory tissue. There were granulomata consisting of collagen-rich tissue infiltrated with lymphocytes and occasional neutrophiles, in which were embedded microabscesses containing spherules of *Coccidioides immitis*.

2425. Straub (M.) & Schwarz (J.). **Coccidioidomycotic thoracic lesions in Dogs in Tucson, Arizona.**—*Arch. Path.*, 62, 6, pp. 479–488, 17 figs., 1956. [*T.D.B.*, 54, p. 613.]

In a study of the incidence of canine coccidioidomycosis [*Coccidioides immitis*] in Tucson, Arizona, an area of endemic infection, 33 apparently healthy dogs and one with distemper were killed at the Pima Animal Shelter, and examination made of the lungs and tracheobronchial lymph nodes. Eight were found to have been infected and the lesions in these, which are fully described, were compared with those at corresponding stages of human infection [cf. 2, No. 1153]. In four the evident primary foci, comparable to those seen in human infection, were small, apparently arrested, sub-pleural nodules with central caseation, in which the alveolar structure of the lung was still discernible: calcification was beginning in two of them. The capsule was more granulomatous than in man but the findings supported the authors' observation on the human disease, that 'the capsule of the primary coccidioidal focus was the result of interstitial granulomatous extension of the disease process'. Unusual findings were the presence of two separate and simultaneous primary foci in two of the dogs, and a probably unique primary focus in the bronchial wall without involvement of the surrounding lung parenchyma. This focus had discharged into the bronchial lumen.

2426. Tyler (R.). **Spinal fluid alcohol in yeast meningitis.**—*Amer. J. med. Sci.*, 232, 5, pp. 560–561, 1956. [*B.H.*, 32, p. 252.]

Cryptococcus neoformans is able to utilize glucose under anaerobic conditions, forming alcohol. Applying this to diagnosis the author has devised a test in which 1 ml. of a saturated solution of potassium dichromate in concentrated sulphuric acid is mixed with 1 ml. of cerebrospinal fluid (CSF), observations being made after 5 min., 2 hours, and 24 hours for the green coloration indicating the reduction of the dichromate which would occur in the presence of alcohol. In this way alcohol was demonstrated in the CSF of three out of five cases of cryptococcal meningitis. In these three the sugar content was abnormally low while in the two which were negative to the test it was normal, the fungus apparently having failed to utilize it. In control tests on 300 random CSF samples, including three from pneumococcal, four from meningococcal, and six from tuberculous meningitis, all gave negative results, with one exception attributable to the presence of paraldehyde.

2427. Piantoni (L.) & Sirtori (P. G.). **Contributo allo studio della patologia sperimentale da Debaryomyces neoformans (Sanfelice) Red. Cif. et Gior.** [A contribution to the study of the experimental pathology of *Debaryomyces neoformans* (Sanfelice) Red. Cif. & Gior.]—*Biol. lat*, 8, 4, pp. 953–983, 8 figs., 1955. [Spanish, French, English, and German summaries.]

At the Institute of Anatomy and Pathological Histology, University of Milan, rabbits were inoculated intravenously with one or other of two strains of *Debaryomyces* [*Cryptococcus*] *neoformans*. One, the Freeman and Weidman strain (from Baarn), did not cause disease, but the other, Sanfelice's original

strain (from Milan), produced non-fatal disease, the course of which was observed in detail for slightly more than three weeks, and the histopathology of which is described.

2428. Willis (J. D.), Marples (Mary J.), Di Menna (Margaret E.), Rodda (R.), & Pullar (T. H.). **Cryptococcal (Torula) meningitis in New Zealand. A report of four cases.**—*N.Z. J. Med.*, 56, 312, pp. 99–109, 14 figs., 1957.

Four cases of meningitis caused by *Cryptococcus neoformans* are reported from the Palmerston North Hospital and the University of Otago Medical School, Dunedin, New Zealand. Three of the patients were females, aged 38, 56, and 61, and the fourth was a 43-year-old Maori male. Reference is also made to a further case in a 27-year-old Maori woman. The clinical and mycological findings are fully described, together with the results of post-mortem examinations in three cases. The asteroid and crystalloid types of Schaumann's giant cell inclusion bodies were detected in the pleural nodules of one case. Some of the intracerebral lesions were believed to be ischaemic and due to the meningeal arteritis.

2429. Buckle (G.) & Curtis (D. R.). **Therapy of human torulosis with actidione and 'contramine': a report on two cases.**—*Med. J. Aust.*, 2, 21, pp. 854–859, 4 graphs, 1955.

Torulosis [*Cryptococcus neoformans*] with involvement of the lungs and central nervous system, affecting a housewife aged 44 years and a gardener aged 61 was treated with contramine and actidione at the Alfred Hospital, Melbourne. Contramine produced serious toxic effects in both cases. With actidione nausea, vomiting, mental deterioration, and a fall in prothrombin level were seen, and even with toxic doses the blood level was too low to be effective.

2430. Lepow (H.), Rubenstein (L.), Chu (F.), & Shandra (J.). **A case of Cryptococcus neoformans meningo-encephalitis complicating Boeck's sarcoid.**—*Pediatrics*, 19, 3, pp. 377–386, 4 figs., 1957. [Summary in Interlingua.]

From the Lincoln Hospital, New York, the authors give details of a case of meningo-encephalitis due to *Cryptococcus neoformans* complicating diffuse systemic sarcoidosis in a 10-year-old negress. The frequent coincidence of diseases of the reticulo-endothelial system and infection by *C. neoformans* [2, No. 1732] are discussed.

2431. Geaney (B.), Horsfall (W. R.), & Neilson (G.). **Torulosis in Queensland: Report of fourteen Cases.**—*Med. J. Aust.*, 2, 10, pp. 378–382, 4 figs., 1956. [*B.H.*, 32, p. 252.]

The authors present brief clinical and pathological notes on 14 cases of torulosis (*Cryptococcus neoformans*) diagnosed in Queensland between June 1951 and May 1954. The central nervous system was involved in 13 and the lungs in 5 of the patients.

2432. Hoigné (R.), Beer (K.), & Cottier (H.). **Über Torulose.** [On torulosis.]—*Schweiz. med. Wschr.*, 87, 5, pp. 97–101, 8 figs. (5 col.), 1 graph, 1957.

This is a full report from the University of Berne, Switzerland, on a case of meningo-encephalitis caused by *Torulopsis* [*Cryptococcus*] *neoformans* in a 51-year-old male. A few days before death, which occurred after four weeks notwithstanding intensive therapy with mycostatin, the fungus was isolated from the urine and blood, and at autopsy foci were detected in a number of organs, including the kidneys, prostate, epicardium, thyroid gland, and mediastinum.

2433. Nanda (S. P.), Kass (I.), Cohn (M.), & Dressler (S. H.). **Coexistence of tuberculous and cryptococcal meningitis.**—*Pediatrics, Springfield*, 20, 1, pp. 45–52, 1957. [Summary in Interlingua.] [50 refs.]

From the National Jewish Hospital, Denver, Colorado, the authors report and discuss a case of apparent co-existence of tuberculous and cryptococcal meningitis (*Cryptococcus neoformans*) in a 10-year-old boy. This is stated to be the first record of such an association. Remission of the fungal infection followed a short course of therapy with ethyl vanillate [cf. 2, No. 1507] at a dosage of 4 g. thrice daily.

2434. Pinney (C. T.). **Solitary circumscribed lesion of the lung due to Cryptococcus neoformans.**—*Amer. Rev. Tuberc.*, 74, 3, pp. 441–444, 4 figs., 1956.

From the Fitzsimons Army Hospital, Denver, Colorado, is reported a case of cryptococcosis (*Cryptococcus neoformans*), in which the sole lesion was a firm nodule of the upper lobe of the right lung, discovered at a routine X-ray examination and removed by wedge resection. There was an earlier history of fever and a dry unproductive cough which had cleared rapidly. Recovery was complete and uneventful.

2435. Nichols (D. R.) & Martin (W. J.). **Cryptococcosis: clinical features and differential diagnosis.**—*Ann. intern. Med.*, 43, 4, pp. 767–780, 5 figs., 1955.

In a paper from the Mayo Clinic and Mayo Foundation, Rochester, Minnesota, nine cases of cryptococcosis [*Cryptococcus neoformans*] are reported, six in detail.

2436. Camara (H. A.). **La blastomycose oculaire du Cheval. Contribution à l'étude de la maladie à l'occasion des cas observés en Afrique Occidentale Française.** [Ocular blastomycosis in the Horse. A contribution to the study of the disease arising out of cases observed in French West Africa.]—*Rev. Élev.*, 9, 2, pp. 149–166, 1956. [*V.B.*, 27, No. 1055.]

A fully documented historical introduction precedes a description of the symptomatology, diagnosis and treatment of ocular blastomycosis in horses, based on ten cases in Senegal.

The first sign is a transient ulcer at the internal commissure of the eyelid. Subsequently a flat-edged pruriginous ulcer appears in the suborbital region and spreads towards the forehead. The fact that the lymphatic system is not invaded enables ocular blastomycosis to be differentiated from epizootic lymphangitis [*Histoplasma farciminosum*]. In the six cases treated the condition responded to alternating intravenous injections of mercury biniodide (20 ml. of a 1:60 soln in potassium iodide) and Lugol's iodine (20 ml.), given daily or at longer intervals according to the tolerance of the animal. The causative organism is a yeast closely resembling, if not identical with, *Cryptococcus mirandei*.

2437. Ségretain (G.), Verge (J.), Drieux (H.), Mariat (F.), Paraf (A.), Labie (C.), & Théron (B.). **Mammite à Cryptococcus neoformans.** [Mastitis caused by *Cryptococcus neoformans*.]—*Bull. Acad. vét. Fr.*, 29, 1, pp. 33–41, 1956.

The authors report a case of bovine mastitis caused by *Cryptococcus neoformans*. The affected quarter was enlarged and hard, and there was mild oedema of the hindquarters associated with loss of skin and hair. The little milk obtainable from the quarter was yellowish, serous, and cloudy. The general condition of the animal was good, and the oedema of the hindquarters cleared spontaneously though the affected quarter remained unchanged. Intramammary infusion of actidione to a total of 456 mg. in two quarters in nine days was well tolerated and resulted in the production of milk free of the fungus, but the swelling remained and milk yield was not restored.

2438. Tevis (L.). **Additional records of Haplosporangium parvum in Mammals in Britain.**—*Nature, Lond.*, 177, 4505, p. 437, 1956.

Referring to the recent isolation of *Haplosporangium parvum* from moles (*Talpa europea*) in England [2, No. 1013], the author recalls that in 1945 he trapped a selection of small rodents on the chalk downs near Blandford, Dorset, finding in the lungs of a number of them spherules which he could not at the time identify. From subsequent experience with North American rodents, however, and in view of the aforementioned paper, he is now certain that these spherules were attributable to *H. parvum*. The incidence of infection was as follows: *Apodemus sylvicatus*, 60 trapped, 1 infected; *A. flavicollis* (3:1); and *Clethrionomys glareolus* (38:9).

2439. Bakerspigel (A.). **Haplosporangium in an additional rodent host, Microtus pennsylvannius Drummondi.**—*Nature, Lond.*, 179, 4565, p. 875, 2 figs., 1957.

The author records finding spherules of *Haplosporangium parvum* in the lungs of 2 out of 25 meadow voles (*Microtus pennsylvanicus*) trapped in Saskatchewan [cf. 2, Nos. 2071, 2072].

2440. Sorensen (L. J.). **An investigation of the antigenic structure of the yeast phase of Histoplasma capsulatum.**—*Diss. Abstr.*, 16, 12, p. 2283, 1956.

At the University of Michigan, zinc and ethanol fractionation of the supernatant fluid from yeast-phase culture of *Histoplasma capsulatum* gave an antigen which fixed complement with sera from rabbits at all stages of *H. capsulatum* infection, but exhibited no cross-reactions with sera from rabbits infected with *Blastomyces dermatitidis*, *Candida albicans*, *Coccidioides immitis*, or *Sporotrichum schencki*. Preliminary analysis showed this antigen to be composed of protein or peptide with a small amount of carbohydrate. It gave a precipitin reaction with sera from rabbits immunized with whole yeast cells of *H. capsulatum* but not with sera from infected rabbits. Whole yeast cells, however, were not agglutinated by the immune sera.

Complement-fixation reactions with immune sera, which had been previously absorbed with whole yeast-phase cells to remove the homologous antibodies, were negative to the diagnostic antigen, skin-test antigen, and commercial histoplasmin, indicating that these substances were present on the antigenic surface of the cells. In another study sera adsorbed in the same way, but with cells pretreated with N sodium hydroxide, were positive to these antigens.

Skin-test antigen and diagnostic antigen at optimal concentrations precipitated immune sera, but subsequent complement-fixation tests with the same sera revealed that very little antibody was removed. It was concluded that the sera contained 'incomplete' as well as complete antibodies. The problems of steric hindrance and 'incomplete' antibodies are discussed as a possible explanation of why yeast-phase cells of *H. capsulatum* would not agglutinate.

2441. Walls (K. W.). **An investigation of a hemolytic toxin from Histoplasma capsulatum.**—*Diss. Abstr.*, 16, 12, pp. 2283–2284, 1956.

At the University of Michigan a crude haemolytic material was obtained by elution of ground yeast-phase cells of *Histoplasma capsulatum* in physiological saline. The resultant suspension, which lysed rabbit erythrocytes, could not be separated by the usual centrifuging procedures. Attempts at purification by heavy metal and ethanol precipitation failed, but precipitation with cupric acetate yielded a fraction four times as active, and acid precipitation followed by methanol extraction yielded a product having one hundred times the activity of the crude toxin, 5 μg. being sufficient to lyse 0·4 ml. of a fresh 0·5

per cent. suspension of rabbit eythrocytes. From chemical studies it appeared that the toxin is probably a phospholipid.

The capacity of normal serum to neutralize the toxin was not due to complement: the active principle appeared to be α-globulin or albumin.

2442. Lehan (P. H.), Brasher (C. A.), Larsh (H. W.), & Furcolow (M. L.). **Evaluation of clinical aids to the diagnosis of chronic progressive cavitary histoplasmosis.**—*Amer. Rev. Tuberc.*, 75, 6, pp. 938–948, 1 diag., 1957. [Spanish and French summaries.]

An attempt is made, on the basis of personal experience at the Missouri State Sanatorium and a study of the literature, to assess the usefulness and limitations of the laboratory aids available to establish the diagnosis of chronic progressive cavitary histoplasmosis (*Histoplasma capsulatum*) [2, No. 1827]. The data presented indicate that the clinical and roentgenographic features of the disease are indistinguishable from those of cavitary tuberculosis. About 25 per cent. of known sufferers from cavitary histoplasmosis fail to react to the skin test, while at least 10 per cent. are negative by the serological methods employed.

Concomitant infections by *M[ycobacterium] tuberculosis* and *H. capsulatum* are not uncommon and may explain some failures in the chemotherapy of tuberculosis. Mycological studies of the sputum by the use of special stains, such as Gridley's or periodic acid-Schiff is regarded as essential.

2443. Ribi (E.) & Salvin (S. B.). **Antigens from the yeast phase of Histoplasma capsulatum I. Morphology of the cell as revealed by the electron microscope.**—*Exp. Cell Res.*, 10, 2, pp. 394–404, 1956.

In studies at the National Microbiological Institute, Rocky Mountain Laboratory, Hamilton, Montana, on the antigenic properties of structural constituents in the cell of *Histoplasma capsulatum* [2, No. 1563] the authors failed to detect by the use of the electron microscope a capsule in yeast-phase cells.

2444. Zimmerman (L. E.). **Some contributions of the histopathological method to the study of fungus diseases.**—*Trans. N.Y. Acad. Sci.*, Ser. II, 19, 4, pp. 358–371, 1957. [54 refs.]

The author surveys the progress made during the last decade in the development of special staining techniques for the histopathological demonstration of fungi, with special emphasis on *Histoplasma capsulatum*.

2445. Dubois (A.) & Vanbreuseghem (R.). **Étude expérimentale d'une souche belge d'Histoplasma capsulatum. Comparaison avec d'autres souches et avec H. duboisii.** [An experimental study of a Belgian strain of *Histoplasma capsulatum*. A comparison with other strains and with *H. duboisii*.]—*Leeuwenhoek ned. Tijdschr.*, 22, 1, pp. 103–112, 1956.

In a comparative study at the Institute of Tropical Medicine, Antwerp, three strains of *H. capsulatum* isolated from soil in French Guiana and a fourth isolated in Belgium from a patient with ulcers in the mouth were morphologically similar in the parasitic state. The Belgian strain seemed less pathogenic than the others. When compared with a strain of *H. duboisii* from a patient recently returned from the Congo [cf. 2, No. 2103] all four were clearly distinguishable from it by their morphology both in the parasitic phase and in culture in the yeast phase, and by differences in the reactions evoked in animal tissues. In none of the authors' experiments did the parasitic state of *H. capsulatum* equal in size the parasitic elements of *H. duboisii*. No 'large forms' or mycelia were observed. On the other hand, inoculation of hamsters and guinea-pigs with *H. duboisii* invariably produced ovoid bodies 13–15 μ

long. Only in the first few days after inoculation were forms indistinguishable from those of *H. capsulatum* seen.

2446. Procknow (J. J.). **The diagnostic problem of histoplasmosis.**—*Postgrad. Med.*, 20, 3, pp. 206–217, 15 figs., 1 graph, 1956.

This discussion of the problems attending the diagnosis of histoplasmosis (*Histoplasma capsulatum*), based on experience at the Department of Medicine, University of Chicago, and a study of the relevant literature, is illustrated by reports of cases representing asymptomatic primary infection, asymptomatic histoplasmoma, acute febrile and acute diffuse pulmonary histoplasmosis, chronic cavitary pulmonary histoplasmosis, and acute histoplasmosis with dissemination. Information is also presented on the history, epidemiology, course, and etiology of the disease.

2447. Revil (H.) & Menu (P.). **Tests cutanés à l'histoplasmine et calcifications pulmonaires au Cameroun.** [Cutaneous tests with histoplasmin and pulmonary calcifications in the Cameroons.]—*Bull. Soc. Path. exot.*, 49, 6, pp. 1120–1124, 1956.

Of 137 persons skin-tested with histoplasmin in the Mlam district of the French Cameroons, 14 reacted positively [cf. 2, No. 1862]. There were 12 cases of pulmonary calcification and 9 of coincident sensitivity to tuberculin.

2448. Serviansky (B.) & Schwarz (J.). **The incidence of splenic calcifications in positive reactors to histoplasmin and tuberculin.**—*Amer. J. Roentgenol.*, 76, 1, pp. 53–59, 8 figs., 1956.

Of 157 persons (patients and staff) skin-tested with histoplasmin and tuberculin at the Jewish Hospital, Cincinnati, Ohio, 59 were found to harbour splenic calcifications, which were usually associated with a positive reaction to the former antigen and a negative response to the latter. These findings lend further support to the results of autopsies, which frequently reveal *Histoplasma capsulatum* as a agent of splenic calcifications. Since skin sensitivity is often lost by persons over forty years of age, the presence of such calcifications may assist in establishing previous contact with the fungus.

2449. Feller (A. E.), Furcolow (M. L.), Larsh (H. W.), Langmuir (A. D.), & Dingle (J. H.). **Outbreak of unusual form of pneumonia at Camp Gruber, Oklahoma, in 1944. Follow-up studies implicating Histoplasma capsulatum as the etiologic agent.**—*Amer. J. Med.*, 21, 2, pp. 184–192, 8 figs., 1956.

In March and April 1944, 27 soldiers were admitted to the Station Hospital, Camp Gruber, Oklahoma, suffering from an unusual form of pneumonia. All had entered an abandoned storm-cellar during manœuvres 12 days before the onset of the illness, which was marked by a sudden onset of predominantly constitutional symptoms, substernal pain, and constriction in the chest. Symptoms of upper respiratory tract infection were minimal or absent, and cough, if present, was at first mild. Chest films revealed extensive mottled infiltrations of a uniform pattern, with multiple lesions 1–20 mm. in diameter scattered diffusely throughout both lung fields. In most cases, the hilar lymph nodes were enlarged, and in some mild cases hilar enlargement was the only finding. These changes became detectable a few days after the onset of the illness, reaching maximum intensity in 10–12 days. Recovery was slow and often incomplete. After seven and a half months, 21 patients had required release from the army and still complained of fatigue and pain after mild exercise. Of 42 men who entered the cellar, 31 are known to have become diseased; of the remainder, 4 had signs of the complaint, 4 had no illness, and 4 were unavailable for study. *Histoplasma capsulatum* was not found in the patients' sputum, nor in dust from the cellar at the time of the outbreak. However, published

reports [cf. 2, No. 2073], together with follow-up studies on which the present paper is based, indicated that it was the agent, and it was later isolated from soil from the cellar. The follow-up studies, involving 37 men, demonstrated (1) a positive reaction to histoplasmin in all patients who had exhibited the characteristic symptoms in 1943 and 1944; (2) the presence of a specific antibody against *H. capsulatum* in convalescent sera; (3) a similar antibody, at reduced titre, in post-convalescent sera taken in 1950 and 1951; and (4) miliary calcification in chest films of the patients who had earlier exhibited pulmonary infiltration. In no case was the fungus isolated from a patient. Illnesses similar to those in the present outbreak were recorded at Camp Gruber and also at Camp Crowder, Missouri, in 1943.

2450. Adriano (S. M.), Schwarz (J.), & Silverman (F. N.). **Epidemiologic studies in an outbreak of histoplasmosis.**—*J. Lab. clin. Med.*, 46, 4, pp. 592–596, 1955.

The authors report, from the Cincinnati General Hospital, an epidemic of histoplasmosis in a farming family near Pisgah, Butler County, Ohio, in 1953 [cf. 2, No. 1830]. Two sisters were admitted to hospital. The younger (aged two) had a history of loss of appetite lasting three weeks, followed by low grade fever with an insidious onset, and finally high fever in the four days before admission. She exhibited enlargement of the cervical lymph nodes, liver, and spleen, and râles throughout both lung fields. Diagnosis of disseminated histoplasmosis, established by blood and bone marrow cultures, was confirmed at autopsy three days after admission.

Her sister (aged four) exhibited painless enlargement of the cervical lymph nodes, slight enlargement of the liver and spleen, and loss of appetite. Diagnosis from bone marrow and lymph node tissue was likewise confirmed when autopsy seven months later revealed the disseminated disease. The remaining nine members of the family were all histoplasmin positive, except for the maternal grandmother. Complement-fixation tests were positive in high titre (1:128 and 1:512) in the two patients, and in 1:2 dilution in their elder sibling, but negative in the remainder of the family.

The three farm cats showed no evidence of the disease. The two dogs were histoplasmin positive, and microscopical sections of their lungs, liver, spleen, and lymph nodes revealed infection.

Twenty-five representative soil and water samples taken from the farm (including a disused chicken coop) and from another locality frequented by the children, were all negative to mouse inoculation tests. It was concluded however that there must have been a local source of infection because a healthy dog introduced on to the farm developed the disease.

2451. Parrott (T.), Taylor (G.), Poston (Mary A.), & Smith (D. T.). **An epidemic of histoplasmosis in Warrenton, North Carolina.**—*Sth. med. J.*, 48, 11, pp. 1147–1150, 2 figs., 1955.

This is a report, from Duke University School of Medicine, Durham, North Carolina, of an epidemic of histoplasmosis [*Histoplasma capsulatum*], characterized by severe headaches, fever, and pulmonary symptoms, in six white workmen and a foreman. All developed symptoms 10–14 days after working in a belfry containing pigeon faeces.

2452. Floch (H.) & André (J.). **Un aspect de l'histoplasmose de primo-infection.** [An aspect of primary infection in histoplasmosis.]—*Bull. Soc. Path. exot.*, 48, 4, pp. 463–469, 1955.

Histoplasmin skin-testing under the auspices of the Institut Pasteur of French Guiana, at a school in Cayenne, elicited strong reactions in a number

of children who, on questioning, recalled that they had been affected by an epidemic of 'influenza' some weeks previously. A woman of 50 was also seen, who had had persistent fever ever since the time of the epidemic, with mild chest pain and considerable loss of weight. She was very strongly positive to the test. Following this, 15 persons of both sexes (aged 14–49 years), all affected by the epidemic, were skin-tested. All gave strong positive reactions of erythema and induration, while of 17 controls who had not been affected only 3 (children between 10 and 12 years) gave a strong reaction of erythema, and 11 (including these 3) exhibited mild induration. The authors conclude that the 'influenza' outbreak was an epidemic of primary histoplasmosis.

2453. Duperrat (B.). **Histoplasmose africaine cutanée.** [African cutaneous histoplasmosis.]—*Bull. Soc. méd. Hôp. Paris*, Sér. 4, 73, 18–19, pp. 553–558, 1957. / BH 32: 955]

Tropical diseases are stated to be occurring with ever greater frequency in Parisian medical practice [cf. 1, No. 2130]. In connexion with a case of cutaneous histoplasmosis (*Histoplasma capsulatum*) of the right arm of one year's duration in a 47-year-old male repatriated from Africa, who was at first suspected to be suffering from leishmaniasis, information is summarized on various aspects of the disease.

2454. Fissel (G. E.). **Acute fulminating histoplasmosis.**—*Amer. J. Roentgenol.*, 76, 1, pp. 60–63, 6 figs., 1956.

In two cases of histoplasmosis (*Histoplasma capsulatum*) herein reported from Williamsport, Pennsylvania, chest roentgenograms revealed the diffuse nodular densities throughout the lungs which are characteristic of histoplasmosis. Both patients (males of 27 and 53) responded to cortisone therapy by marked clinical improvement.

2455. Murray (J. F.), Lurie (H. I.), Kaye (J.), Komins (C.), Borok (R.), & Way (M.). **Benign pulmonary histoplasmosis (cave disease) in South Africa.**—*S. Afr. med. J.*, 31, 11, pp. 245–253, 13 figs., 1 diag., 1957.

The occurrence of benign pulmonary histoplasmosis (*Histoplasma capsulatum*) in South Africa has been established from a study of 46 cases of cave disease [cf. 2, Nos. 1828, 1829, and next entry], three of which are described.

2456. Dean (G.). **Cave disease.**—*Centr. Afr. J. Med.*, 3, 3, pp. 79–81, 2 figs., 1957.

From the Provincial Hospital, Port Elizabeth, South Africa, the author describes a very severe case of pulmonary histoplasmosis (*Histoplasma capsulatum*) which developed in a member of the Rhodesian Geological Service a fortnight after the exploration of bat-infested caves in the Urungwe Native Reserve. The patient recovered slowly but was unable to return to work for three months.

2457. Gass (R. S.), Zeidberg (L. D.), & Hutcheson (H. H.). **Chronic pulmonary histoplasmosis complicated by pregnancy and spontaneous pneumothorax.**—*Amer. Rev. Tuberc.*, 75, 1, pp. 111–121, 6 figs., 1957. [Spanish and French summaries.]

From the Tennessee Departments of Public Health and Preventive Medicine, Nashville, a report is presented on the case of a 31-year-old woman who had been suffering from chronic pulmonary histoplasmosis (*Histoplasma capsulatum*) for eight years, during which period she had four full-term pregnancies. The condition tended to improve during gestation but following delivery the lesions usually spread, the cavities increased in number and size, and the

patient lost considerable weight. She also experienced two episodes of spontaneous pneumothorax, one on each side, but recovered without complications or after-effects.

A possible explanation of the improvement during pregnancy is that the abdominal pressure exerted on the diaphragm by the enlarged uterus induced a similar beneficial effect to that resulting from application of pneumoperitoneum therapy in some types of tuberculosis. It is suggested that this mode of treatment might be tried in cases of chronic pulmonary histoplasmosis.

2458. Polk (J. W.), Brasher (C. A.), De Castro (J.), & Buckingham (W. W.). **The surgical treatment of pulmonary histoplasmosis with an evaluation of MRD–112 as a possible adjunct.**—*J. thorac. Surg.*, 31, 2, pp. 148–164, 5 figs., 1956.

This report from the Missouri State Sanatorium, Mt. Vernon, is based on 12 proved cases of chronic progressive pulmonary histoplasmosis (*Histoplasma capsulatum*) in patients between the ages of 37 and 62 (10 males, 1 negro). The duration of the illness ranged from six months to over five years, and in two cases there was co-existent pulmonary tuberculosis. Six patients treated with MRD–112 (beta-diethylaminoethyl-fencholate) failed to respond, but five of the seven submitted to pulmonary resection were able to return to normal life. On the basis of serological studies it is suggested that the operation should be deferred until the disease is stabilized, as judged by the complement-fixation test, or until the strength of the reaction is 1:8 or less.

2459. Fish (N. A.), Schroder (J. D.), & Fischer (J. B.). **A laboratory report on a case of canine histoplasmosis in Ontario.**—*Canad. med. Ass. J.*, 74, 9, pp. 734–735, 1956.

The case of canine histoplasmosis [*Histoplasma capsulatum*] here reported from the Ontario Veterinary College, Guelph, is thought by the authors to be the first authentic diagnosis of this infection in animals for Ontario, and possibly for Canada.

2460. Cole (C. R.). **Symposium on granulomatous diseases. Part 2. Case 21. Experimentally induced histoplasmosis in a Dog.**—*J. Amer. vet. med. Ass.*, 127, 945, pp. 526–528, 1955.

A dog which had undergone five days of a 16-day course of cortisone was inoculated intratracheally with 1 ml. of a culture of *Histoplasma capsulatum*. Pyrexia and dypnoea developed on the sixth day and grew progressively worse until death ensued on the 18th day after inoculation. Another dog, not receiving cortisone, did not become infected when given two such inoculations 35 days apart and 2 ml. inoculations on the 75th, 77th, and 79th days. It succumbed however, when, after a seven-month period free of infection, it was subjected to the same treatment as the first dog.

In a discussion following the paper the author stated that normal dogs could be infected without exception by intratracheal inoculation of the yeast phase but not the mycelial phase. Cortisone therapy destroyed this resistance to the mycelial phase.

2461. Watson (K. C.). **Gastric perforation due to the fungus Mucor in a Child with kwashiorkor.**—*S. Afr. med. J.*, 31, 5, pp. 99–101, 3 figs., 1957.

From the Department of Pathology, University of Natal, Durban, the author reports the autopsy findings in a case of mucormycosis (*Mucor* sp. with hyphae up to 20 μ (av. 10 μ) in diameter) in a 26-month-old male Bantu infant admitted

to Edendale Hospital, Pietermaritzburg, with a history of diarrhoea of three weeks' duration. The typical features of this type of infection were present, i.e. necrosis of tissue with involvement of the lumen and blood-vessel walls. A remarkable phenomenon was the immense size of the perforation of the anterior wall of the stomach.

2462. Schofield (R. A.) & Baker (R. D.). **Experimental mucormycosis (Rhizopus infection) in mice. The failure of chronic alloxan diabetes to modify host susceptibility.**—*Arch. Path.*, 61, 5, pp. 407–415, 8 figs., 1956.

The lesions produced by the intraperitoneal or intracerebral inoculation of *Rhizopus arrhizus* were identical in normal mice and in mice rendered diabetic by alloxan treatment.

2463. Neto (C. F.). **Estudos quantitativos sobre a fixacao do complemento na blastomicose Sul-Americana, com antigeno polissacaridico.** [Quantitative studies on the fixation of complement in South American blastomycosis, with polysaccharide antigen.]—*Arch. Cirurg. clin. exp.*, 18, 5–6, pp. 197–254, 1955. [English summary.] [*T.D.B.*, 54, p. 354.]

This valuable and extensive report on the complement-fixation reaction in South American blastomycosis [*Paracoccidioides brasiliensis*] was presented as a doctoral thesis at the University of São Paulo.

After lengthy investigations a polysaccharide material, extracted from yeast-phase cultures of the fungus by autoclaving, was chosen as the most suitable antigen. This type of antigen had already proved its value in serological studies of sporotrichosis [*Sporotrichum schencki*; cf. 2, No. 183]. It gave a negative Molisch but a positive biuret reaction, and its complement-fixing power was greatly increased by removing from it the acetone- and ether-soluble fractions. Quantitative studies were carried out on 100 sera from authentic cases of the disease, and on a variety of control sera, using the techniques of Stein, Van Gnu, and Wadsworth. More consistent results were obtained when 18 hours at 0–4° C. were allowed for the reaction than when only 4 hours were given. Although some cross-reactions occurred with sera from other diseases they appeared to be unrelated to any particular disease, and the great mass of control sera from healthy and morbid human sources gave negative results. It was found that the test may give negative results with localized disease in the earlier stages, and that it is unreliable for detecting deep-seated localized disease. Progressive decline of complement-fixing antibody may be good confirmatory evidence of clinical cure under chemotherapy, but the final disappearance of antibody does not indicate that the fungus has been eliminated. Persistence of a moderate antibody titre in the face of apparent clinical cure is an indication to continue treatment.

2464. Fain (A.) & Herin (V.). **Deux cas de rhinosporidiose nasale chez une Oie et un Canard sauvages à Astrida (Ruanda-Urundi).** [Two cases of nasal rhinosporidiosis, in a wild Goose and a wild Duck, at Astrida, Ruanda Urundi.]—*Mycopathologia*, 8, 1, pp. 54–61, 4 figs., 1957.

The authors record from the Medical Laboratory at Astrida, Ruanda Urundi, Belgian Congo, nasal rhinosporidiosis [*Rhinosporidium seeberi*] in two birds belonging to species widely distributed in Central Africa, the Egyptian goose (*Alopochen aegyptiacus*) and the African whistling duck (*Dendrocygna viduata*). In both there were polypi of the nasal fossae, with a granulomatous structure and generally resembling the lesions of nasal rhinosporidiosis in man. The organism was morphologically identical with that causing the human disease.

2465. Lutz (W.). **Mykosen.** [Mycoses.]—*Dermatologica, Basel,* **113,** 3, pp. 179–184, 1956.

A continuation of **2**, No. 2165.

2466. Gotz (H.). **Fortschritte der medizinischen Mykologie. I. II.** [Advances in medical mycology. I. II.]—*Hautarzt, Berl.*, **7**, 10, pp. 433–442; 11, pp. 481–487, 1956. [numerous refs.]

This review of recent developments since 1953 follows the lines of its forerunner [**2**, No. 586].

2467. Corrales Padilla (H.). **Micosis profundas en Honduras.** [Deep mycoses in Honduras.]—*Rev. méd. hond.*, **23**, 174, pp. 1019–1057, 1954.

2468. González-Ochoa (A.). **Las enfermedades por hongos en Mexico.** [Fungus diseases in Mexico.]—*Rev. Inst. Salubr. Enf. trop.*, **15**, 3, pp. 133–147, 1955.

2469. Zapater (R. C.). **El diagnóstico micológico de laboratorio.** [Mycological diagnosis in the laboratory.]—162 pp., 54 fig., Buenos Aires, Ed. El Ateneo, 1956. Pesos argent. 65 (approx. $2.0).

This book gives practical information on the diagnosis of the fungus diseases of man. The 1st 3 chapters deal with general aspects of mycoses, the morphology of the fungi, and the techniques for diagnosis. Chapt. 4 has an identification key based on the parasitic phases of the fungi [cf. **2**, No. 2471]. The remaining chapters deal with the principal diseases separately, and the last with allergy. The book is well illustrated, the figures being original.

2470. Zapater (R. C.). **Orientación para el diagnóstico de las micoses pulmonares (Análisis del esputo).** [A guide to the diagnosis of pulmonary mycoses (sputum analysis).]—*Rev. Asoc. bioquím. argent.*, **21**, 104, pp. 57–66, 1956.

2471. Zapater (R. C.). **Clave para la identificación directa de los hongos patógenos en el tejido parasitado.** [Key for the direct identification of pathogenic fungi in the infected tissue.]—*Pren. méd. argent.*, **42**, 34, pp. 2624–2634, 1955. [Cf. **2**, No. 2469.]

2472. Lacaz (C. S.) & Ramos (H.). **Anatomía patológica das micoses.** [Histopathology of the mycoses.]—*Med. Cirurg. Farm.*, **246**, pp. 443–484, 1956.

A review of the diagnosis of fungus diseases from tissue sections.

2473. Almeida (F. de). **Contribuição para o estudo da posição sistemática dos gêneros : Delacroixia, Histoplasma, Blastomyces e Paracoccidioides.** [A contribution to the study of the taxonomy of the genera *Delacroixia*, *Histoplasma*, *Blastomyces*, and *Paracoccidioides*.]—*An. Fed. Med. S. Paulo*, **28**, 2, pp. 135–140, 1954.

The inclusion of *Blastomyces* and *Histoplasma* in the Paracoccidioidaceae (Entomophthorales) is proposed.

2474. Olanescu (C.), Streja (M.), & Zaharia (Z.). **Infections fongiques de l'appareil urinaire.** [Fungal infections of the urinary apparatus.]—*J. Urol. méd. Par.*, **62**, 12, pp. 771–779, 1956.

2475. Seeliger (H. P. R.). **Fortschritte in der Chemotherapie disseminierter Mykosen.** [Progress in the chemotherapy of disseminated mycoses.]—*Deutsch. med. Wochensch.*, **81**, 50, pp. 2041–2045, 1956. [104 ref.]

2476. Kimmig (J.) & Rieth (H.). **Aktuelle Chemotherapie erprobter Antimykotiker.** [Present day chemotherapy with proved antimycotics.]—Reprinted from *Ärztliche Praxis*, **5**, 16, 15 pp., (18 April) 1953.

2477. Rieth (H.). **Experimentelle Untersuchungen der antimykotischen Wirkung synthetischer Antihistamine.** [Experimental investigations of the antimycotic action of synthetic antihistamine.]—*Hautarzt.*, **4**, 10, pp. 474–481, 1953. [22 ref.]

None of 48 antihistamines tested against *Trichophyton mentagrophytes* and *Microsporum gypseum* and inhibitive in varying degree were sufficiently effective to be termed antimycotics.

2478. González-Ochoa (A.) & Sandoval (Maria de L. A.). **Características de los actinomicetes patógenos más comunes.** [On the characteristics of the most common pathogenic actinomycetes.]—*Rev. Inst. Salubr. Enf. trop.*, **16**, 3, pp. 149–161, 1955.

A study on *Actinomyces bovis*, *Nocardia brasiliensis*, *Streptomyces madurae*, *S. paraguayensis*, and *S. pelletieri*.

2479. a. Späth (F.) & Köle (W.). **Zur Diagnose, Klinik und Therapie der Lungenaktinomykose.** [Diagnosis, clinical aspects, and therapy of actinomycosis of the lungs.]—*Medizinische*, **4**, pp. 150–154, 1956.

b. Franchi-Pade (J.), Oehninger (C.), Liberoff (M.), & Stanham (J.). **Actinomicosis sistémica a localización pulmonar, cerebral, muscular y renal.** [Systemic actinomycosis [*Actinomyces israelii*] with pulmonary, cerebral, muscular, and renal lesions.]—*An. Fac. Med. Montevideo*, **40**, 1, pp. 28–41, 1955.

c. Rush (W. E.), Truant (J. P.), Sieracki (J. C.), & Manson (G.). **Actinomycosis; cerebral infection presenting as a brain tumor.**—*Henry Ford Hospital Bull.*, **4**, 4, pp. 217–223, 1956.

d. Kloss (K.) & Thurmer (J.). **Aktinomykotische Hirnabszesse.** [Actinomycotic brain abscesses.]—*Klin. Med. Wien*, **10**, 11, pp. 489–502, 1955.

e. Palchetti (G.) & Giuliani (L.). **Su di un caso di actinomicosi del testicolo.** [A case of actinomycosis of the testicle.]—*Minerva urol. Torino*, **8**, 5, pp. 144–149, 1956.

f. Vorotilkina (P. I.). **Aktinomikoz serdtsa.** [Actinomycosis of the heart.]—*Sovetsk. Med.*, **20**, 6, pp. 66–68, 1956.

2480. a. Brzin (B.). **Nocardia asteroides.**—*Higijena*, **8**, 2–3, pp. 144–152, 1956. [14 ref.]

Causing brain abscess in 54-yr.-old miner in Ljubljana.

b. Gunderson (G. A.) & Nice (C. M.). **Nocardiosis; a case report and brief review of the literature.**—*Radiology*, **68**, 1, pp. 31–35, 1957.

c. Stadler (H. E.), Kraft (B.), Weed (L. A.), & Keith (H. M.). **Chronic pulmonary disease due to Nocardia.**—*Amer. J. Dis. Child.*, **88**, 4, pp. 485–491, 4 fig., 1954.

2481. Salas (A.) & Borelli (D.). **Micetoma torácico producido por Nocardia brasiliensis.** [Thoracic mycetoma caused by *Nocardia brasiliensis*.]—*Federación Médica, Venezuela*, pp. 41–46, 1956. [Cf. **2**, No. 669.]

2482. Rivas-Cortazar (J. R.) & Aguilera-Maruri (C.). **Concepto español sobre contagiosidad de las tiñas en el siglo XVI.** [Spanish concept about the contagious nature of tinea in the 16th century.]—*Medicamenta*, **25**, 284, pp. 126–128, 1956.

A municipal statute applying to the village of Ampuero-Santander, contained an ordinance prohibiting contact with boys suffering from tinea.

2483. Levy-Lebhar (G.) & Levy-Lebhar (J. P.). **Les teignes du cuir chevelu au Maroc.** [Tinea of the scalp in Morocco.]—*Maroc méd.*, **35**, 379, pp. 1149–1165, 1956.

2484. a. Kligman (A. M.). **Tinea capitis due to M. audouini and M. canis. II. Dynamics of the host-parasite relationship.**—*Arch. Derm., Chicago*, **71**, 3, pp. 313–337, 15 fig., 1955. [*B.H.*, **30**, p. 864.]

b. Kligman (A. M.). **Pathophysiology of ringworm infections in Animals with skin cycles.**—*J. invest. Derm.*, **27**, 3, pp. 171–185, 1956.

2485. Salazar-Leite (A.) & Re (L.). **A transformação pleomórfica dos dermatófitos.** [Pleomorphic transformation of the dermatophytes.]—*An. Inst. Med. trop.* (*Lisboa*), **11**, 1, pp. 139–154, 1954.

Pleomorphic strains of *Microsporum*, *Trichophyton*, and *Epidermophyton* were cultivated on several media to which 20% of soil was added. Only 1 showed a partial reversion to the normal form.

2486. Pinetti (P.). **Studi sulla variabilità di Trichophyton violaceum. Aspetti macromofologici. Nota I.** [Studies of the variability of *T. violaceum*. Macromorphological aspects. Note I.]—*Riv. Ist. sieroter. ital.*, **31**, 6, pp. 441–463, 2 graphs, 35 fig., 1956. [English summary. *B.H.*, **32**, p. 626.]

2487. Krafchuk (J. D.). **Butylphenamide ; a new anti-fungal agent : preliminary studies.**—*J. invest. Derm.*, **27**, 3, pp. 149–157, 1956.

A tabulation of *in vitro* studies against dermatophytes is followed by a summary of the promising results of a clinical trial on 183 patients.

2488. Quiroga (M. I.), Magnin (P. H.), & Vivot (N.). **Tratamiento de las tiñas con ácidos grasos y estrógenos.** [The treatment of tinea capitis with fatty acids and estrogens.]—*Rev. argent. Dermatosif.*, **39**, 1, pp. 23–25, 1955.

Reports the use of estradiol benzoate, diethylestilbestrol, and aliphatic acids with odd and high numbers of carbon atoms against *Microsporum* (18 cases) and *Trichophyton* (2) infections. After 3–25 weeks all the patients were cured.

2489. Carslaw (R. W.). **Favus of the scalp ; observations on the manner of spread.**—*Brit. J. Derm.*, **67**, 11, pp. 392–396, 1955.

2490. Berlin (C.) & Meyrovitz (C.). **The management of tinea capitis ; report on 1877 treated cases.**—*Brit. J. Derm.*, **67**, 11, pp. 397–401, 1955.

2491. Campo-Aasen (I.) & Borelli (D.). **Tinea capitis por Microsporum canis en cuatro hermanos.** [Tinea capitis in four brothers produced by *Microsporum canis*.]—*Publicaciones del Centro Médico, Carácas*, **9**, pp. 7–12, 1956.

A rather atypical unpigmented strain was isolated from all 4 patients.

2492. Grin (E.), Ožegović (L.), & Vasiljević (A.). **Značaj dermatofitije Goveda za endemičnu raširnost dermatofitije kapilicija.** [The importance of ringworm in Cattle for the endemic dermatophytic infection in human scalp.]—*Rad. Nauč. Društ. Bosne Hercegovine*, Od. Med., *1956*, **3**, pp. 43–68, 4 pl., 2 graphs, 2 diag., 1956. [English, French, and German summaries. *B.H.*, **33**, p. 38.]

2493. a. Vilanova (X.), Casanovas (M.), & Francino (J.). **Onychomycosis ; an experimental study.**—*J. invest. Derm.*, **27**, 2, pp. 77–101, 1956.

From a total of 216 inoculations made on the healthy nails of 14 subjects (11 male, 3 female) with *Trichophyton schoenleinii*, *T. rosaceum*, *T. violaceum*, *T. gypseum* [*T. mentagrophytes*], *T. rubrum*, *T. acuminatum* [*T. tonsurans*], *Microsporum gypseum*, *Candida albicans*, and the contaminant *Cephalosporium* sp. 52 lesions were induced. The percentages of successful infections for different regions of the nail were, body of nail 0, lateral grooves 28·5, supra ungual groove 40·4, nail bed 63·3. The lesions never persisted longer than 180 days.

b. Castanedo (C. A.). **Onicomicosis producida por el Trichophyton mentagrophytes, variedad interdigitale.** [Onychomycosis produced by *Trichophyton mentagrophytes* var. *interdigitale*.]—*Rev. Sif. Leprol.*, **12**, 2, pp. 47–51, 10 fig., 1956.

A clinical account of a case of infection of the fingernails by *T. interdigitale* in a young white man, aged 25, in Cuba.

c. Castanedo (C. A.). **Onicomicosis producida por el Trichophyton rubrum.** [Onychomycosis produced by *Trichophyton rubrum*.]—*Rev. Sif. Leprol.*, **12**, 2, pp. 45–46, 3 fig., 1956.

A report from Cuba of a case of chronic onychomycosis affecting most of the toenails and 3 of the fingernails of the right hand in a white woman, aged 33, employed in domestic service. There was no perionychia but marked hypertrophy of the hyponychium.

d. Stewart (A. E.). **Treatment and diagnosis of fungus nail.**—*J. nat. Ass. Chir.*, **46**, 9, pp. 612–614, 1956.

2494. Schirren (C.), Hansen (P.), & Rieth (H.). **Bericht über eine Reihenuntersuchung der männlichen Betriebsangehörigen eines Gummi-Industrie-Betriebes auf Dermatomykosen der Füße.** [Report on a serial examination for mycoses of the feet of male employees of a rubber works.]—*Berufsdermatosen*, **4**, pp. 59–62, 1956.

A clinical examination of 2,503 workers, with mycological examination of 600 of them, led the authors to conclude that foot mycoses were about as frequent in them as in miners.

2495. Pereira (C. C. A.) & Defina (A. F.). **Herpes circinado da pele glabra causado pelo Achorion gypseum de Bodin.** [Ringworm of the glabrous skin due to *A.* [*Microsporum*] *gypseum*.]—*Rev. paul. Méd.*, **44**, 2, pp. 143–144, 1954. [A case report.]

2496. Grin (E. I.). **Superficijalna trihofitija kapilicija kod odraslih.** [Superficial trichophytosis of the scalp in adults.]—*Rad. Nauč. Društ. Bosne Hercegovine*, Od. Med., *1956*, **2**, pp. 23–40, 4 pl., 4 graphs, 8 diag., 1956. [English, French, and German summaries. *B.H.*, **33**, p. 37.]

A survey in N.E. Bosnia of 117,350 people; 3,026 found to be infected, 91·7% by *Trichophyton violaceum*.

2497. Van De Meiren (L.), Achten (G.), & Vanbreuseghem (R.). **Sabouraudites (Microsporum) gypseum et iodides végétantes.** [*S.* (*M.*) *gypseum* and iodides vegetantes.]—*Arch. belges. Derm.*, **12**, 2, pp. 183–187, 1956.

Following overdosage of iodine, administered for chronic bronchitis, a 58-yr.-old

man developed proliferative suppurative lesions on the face, some resembling verrucous papillomata. *M. gypseum*, isolated from one lesion, was assumed to be saprophytic.

2498. Negroni (P.) & Daglio (C. A. N.). **Alopecía parvimaculata espontánea del cobayo.** [Spontaneous 'alopecia parvimaculata' in guinea-pigs.]—*Rev. Inst. Malbrán*, **16**, 2, pp. 129–132, 1954.

A report of the development of small patches of a non-inflammatory alopecia in 3 of 8 guinea-pigs inoculated with *Trichophyton mentagrophytes*.

2499. a. Szaflarski (J.) & Nawrocki (J.). **Liszaj strzygący u owiec.** [Dermatomycosis in Sheep caused by *Trichophyton* and *Microsporum*.]—*Med. vet. Varsovie*, **12**, pp. 472–474, 1956. [*V.B.*, **27**, p. 66.]

b. Guilhon (J.) & Obligi (S.). **Une nouvelle enzootie de teigne ovine.** [A new enzootic of tinea in Sheep.]—*Bull. Acad. vét. Fr.*, **29**, 9, pp. 443–445, 1956.

The dermatophyte involved in this French case was referred to *Trichophyton verrucosum* var. *ochraceum*.

2500. González-Ochoa (A.). **Pitiriasis versicolor.** [Pityriasis versicolor.]—*Rev. méd. (Méx.)*, **2**, 5, pp. 81–88, 1956.

Review of pityriasis versicolor (*Malassezia furfur*) in Mexico.

2501. Cueva (A.). **Cromoblastomicosis en Honduras.** [Chromoblastomycosis in Honduras.]—*Rev. méd. hondureña*, **24**, 4, pp. 112–117, 1956.

Two cases are reported from Honduras, where the author notes that Corrales has already reported 4 cases (*Rev. méd. hondureña*, **23**, p. 174, 1955).

2502. Ramirez C. (O.). **Cromoblastomicosis en El Salvador. Reporte de un caso.** [Chromoblastomycosis in El Salvador. Report of a case.]—*Arch. Col. méd. El Salvador*, **9**, 3, pp. 218–223, 14 fig., 1956.

2503. Borelli (D.). **Cladosporiosis profunda. Revisión de una cepa.** [Study of a fungus isolated from a case of deep cladosporiosis.]—*Bol. Lab. clin. (Carácas)*, **1**, 1, pp. 29–39, 1956.

The atypical strain of *Cladosporium trichoides* isolated from the brain of a boy in the Belgian Congo by Lucasse *et al.* [**2**, No. 931] is identified as *Fonsecaea pedrosoi*.

2504. a. Worms (R.), Goudal (H.), Clay (R.), Ansel (M.), & Grosgogeat (Y.). **Pied de madura.** [Madura foot.]—*Bull. Soc. franç. Derm. Syph.*, **63**, 4, pp. 314–316, 1956.

Full details are given of a case of infection of the right foot by *Nocardia madurae* [**2**, No. 2015] of 20 yr. standing in a 45-yr.-old female native of Oran [Morocco].

b. Pompeo (I.) & Paroni (F.). **Piede di madura (studio radiologico delle alterazioni scheletriche e vasali).** [Radiological study of the bony and vascular changes in Madura foot.]—*Arch. ital. Sci. med. trop.*, **37**, 10, pp. 543–554, 1956. [29 ref. English summary. *T.D.B.*, **54**, p. 349.]

c. Torres (E. V.). **Hospital de Dementes de Cuba. Un caso de mycetoma pie de madura.** [Mental Hospital, Cuba. A case of mycetoma, Madura foot.]—*Rev. Sif. Leprol.*, **12**, 2, pp. 56–57, 2 fig., 1956.

d. Hickey (B. B.). **Cranial maduromycosis.**—*Trans. R. Soc. trop. med. Hyg.*, **50**, 4, pp. 393–396, 4 fig., 1956.

2505. a. Flores-Ramirez (M.). **Un caso de nocardiosis. Micetoma por Nocardia brasiliensis.** [A case of nocardiosis. Mycetoma caused by *Nocardia brasiliensis*.]—*Dermatología (Méx.)*, **1**, 2, pp. 176–182, 1956.

b. Sampaio (S. A. P.) & Lacaz (C. S.). **Ação do sulfisoxazol na actinomicose provocado pelo Actinomyces brasiliensis.** [The action of sulphisoxazole on the mycetoma produced by *Actinomyces brasiliensis.*]—*Hospital* (*Rio de J.*), **50**, 6, pp. 795–802, 1956. [English summary.]

At the Faculdade de Medicina, University of São Paulo, the authors tested the inhibitory effect of sulphisoxazole on 2 strains of *Actinomyces* [*Nocardia*] *brasiliensis* growing in a liquid peptone-glucose medium. One strain was completely inhibited at 60 μg./ml. and partially at 30 μg./ml. The 2nd strain was inhibited at 15 μg./ml.

One patient with a mycetoma of an arm and with lesions of the bones was treated for 99 days with daily doses of between 15 and 25 g., administered orally. A clinical cure was obtained after 50 days, and 9 months after the end of the treatment no relapse had been observed.

Another patient with a mycetoma of a leg was successfully treated with a daily dose, administered by the oral and the intravenous routes, of 20 g. for 70 days.

2506. a. Maberti (S.) & Borelli (D.). **Un micetoma podal por Madurella mycetomi en Venezuela.** [Mycetoma of the foot caused by *M. mycetomi* in Venezuela.]—*Gac. méd. Carácas*, **64**, 6–9, pp. 279–303, 1956.

b. Mackinnon (J. E.) & Vidal (S.). **Caracteres diferenciales entre la forma parasitaria de Madurella mycetomi y la de Madurella grisea** [Differential characteristics between the parasitic grains of *M. mycetomi* and *M. grisea.*]—*Arch. Soc. Biol. Montevideo*, **21**, pp. 36–43, 1954.

c. Pochat (A. L.) & Zapater (R. C.). **Observaciones de dos casos de maduromicosis, podal y de mano respectivamente, ocasionados por Madurella mycetomi.** [Report of two cases of mycetoma, of the foot and of the hand respectively, due to *M. mycetomi.*]—*Pren. méd. argent.*, **43**, 19, pp. 1542–1547, 1956. [English summary.]

2507. Herrero (F. J.), Usabel (E. J.), & Sirena (A.). **Primer caso en Tucumán, Argentina, de micetoma podal por Monosporium apiospermum.** [First case of Madura foot caused by *M. apiospermum* in Tucumán, Argentina.]—*Pren. méd. argent.*, **42**, 48, pp. 3652–3655, 1955. [English summary.]

2508. Vardhanabhuti (S.). **Maduromycosis of finger, report of a case due to a peculiar yeast-like pyrenomycete.**—*J. med. Ass. Thailand*, **39**, 6, pp. 305–315, 67 fig., on 7 pl., 1956.

At the Naval Medical Dept, Royal Thai Navy, a draining abscess of the left index finger in a 14-yr.-old male printing worker yielded pus containing pseudomycelial elements, a reddish-brown perithecium, several ascospores (7 μ diam.) of the same colour, and numerous spherule-like structures containing pyriform spores of various sizes (up to 4·3×6·4 μ). After 7 days on Sabouraud's dextrose agar numerous round-oval yeast-like cells had developed, with single or multiple buds: pseudo- and true mycelium were present, and fertile perithecia. The fungus is provisionally placed in the Fimetariaceae, though an ostiole is lacking and there are no paraphyses at maturity. Lesions in guinea-pigs and mice are described. The patient was cured by curettage and application of [unspecified] local dressings.

2509. a. Chute (H. L.), O'Meara (D. C.), Tresner (H. D.), & Lacombe (E.). **The fungous flora of chickens with infections of the respiratory tract.**—*Amer. J. vet. Res.*, **17**, 65, pp. 763–765, 1956. [*V.B.*, **27**, No. 343.]

Aspergillus fumigatus (not always associated with tissue invasion) is stated to have been the fungus most frequently isolated from 56 birds with a clinical history of respiratory disease.

b. Taubitz (K.). **Zur Pneumomykose der Hühnerkücken.** [Pneumomycosis in young Chicks.]—*Berl. Münch. tierärztl. Wschr.*, **69**, pp. 328–330, 1956. [*V.B.*, **27**, No. 75.]

c. Campi (A.) & Lacaz (C. da S.). **Aspergilose pulmonar em canário Roller.** [Pulmonary aspergillosis in a canary.]—*Folia clin. biol. (S. Paulo)*, **23**, 1–3, pp. 49–54, 1955. [*Aspergillus fumigatus.*]

2510. Sagi (T.) & Lapis (K.). **Cortisonkezelés hatására kifejlődő Tüdoaspergillosis daganatos patkányoknál.** [The development of the pulmonary aspergillosis in tumorous Rats under cortisone influence.]—*Kisérl. Orvostud.*, **8**, 5, pp. 488–490, 1956.

The authors report that bacterial and fungal abscesses developed in the lungs of 56·5% of tumorous rats under cortisone treatment at a normal dosage [unspecified]. At lower conc. abscess development was weaker, from which it was concluded that the cortisone was responsible for the *Aspergillus* infections.

2511. Van Uden (N.), De Matos-Faia (M.), & Assis-Lopes (L.). **The relationship between Candida claussenii and C. albicans.**—*Rev. Biol.*, **1**, 1, pp. 68–75, 1956.

2512. Mehnert (B.). **Über das Vorkommen und die biologische Bedeutung von Hefen im Kot Menschen und Tieren.** [On the occurrence and biological significance of yeasts in the faeces of Man and Animals.]—*Zbl. Bakt.*, Abt. 2, **110**, pp. 50–81, 1956.

2513. a. Shapiro (E. M.), Mullins (J. F.), & Pinkerton (M. E.). **Direct identification of Candida albicans on Littman's oxgall agar.**—*J. invest. Derm.*, **26**, 1, pp. 77–80, 1956.

b. Prospero (M. T.) & Reyes (A. C.). **The efficacy of corn meal agar, soil extract agar and purified polysaccharide medium in the morphological identification of Candida albicans.**—*Acta med. philipp.*, **12**, 2, pp. 69–74, 1955.

2514. Reyes (A. C.). **The occurrence of Candida albicans in normal stools.**—*Acta med. philipp.*, **12**, 2, pp. 65–68, 1957.

2515. a. González-Ochoa (A.) & Sandoval (Maria de L. A.). **Levaduras en padecimientos intestinales no tratados con antibióticos.** [On the yeasts found in patients with intestinal diseases not treated with antibiotics.]—*Rev. Inst. Salubr. Enf. trop. (México)*, **16**, 1, pp. 15–19, 1956.

Yeasts were cultured from the faeces of 69 of 100 patients; *Candida albicans* from 44 samples.

b. Stapff (V. H.). **Moniliasis orofaríngea como complicación del uso de antibióticos orales.** [Oropharyngeal moniliasis after the topical use of antibiotics.]—*An. Oto-rino-laring. Uruguay*, **25**, pp. 185–195, 1955.

Description of 60 cases (15% attributed to *Candida tropicalis*).

c. Bugallo (O. J.). **Moniliasis. Una entidad nosológica que debemos tener presente. Su relación con la terapéutica antibiótica.** [Moniliasis. A nosological entity which we must consider. Its relationships with antibiotic therapy.]—*Pren. méd. argent.*, **43**, 39, pp. 2950–2954, 1956.

A case of colecystitis attributed to *Candida albicans*.

d. Matthias (J. Q.) & Rees (E. G.). **Candida septicaemia complicating antibiotic therapy.**—*J. Path. Bact.*, **71**, 2, pp. 512–516, 4 fig., 1956.

2516. a. Hu (F.). **The effect of nystatin on experimental candidiasis in tissue culture.** —*J. invest. Derm.*, **27**, 1, pp. 25–29, 1956.

b. Jillson (O. F.) & Lyle (J. S.). **Yeast vulvovaginitis. Its successful treatment with nystatin (mycostatin).**—*Arch. Derm. Chicago*, **74**, 5, pp. 489–492, 1956.

c. Vanbreuseghem (R.) & Eyckmans (R.). **Moniliase chronique résistante à la nystatin.** [Chronic moniliasis resistant to nystatin.]—*Arch. belges Derm.*, **12**, 3, pp. 323–325, 2 fig., 1956.

A chronic case of moniliasis (*Candida albicans*) of the mucous membranes in a 55-yr.-old woman, with onychia and perionychia of several fingers. The condition has proved resistant to all local fungicides, and also to nystatin [mycostatin] at high dosage.

2517. a. Jackson (J. L.). **III. The incidence of Candida in obstetrical patients: history, incidence, diagnosis.**—*Amer. J. Obstet. Gynec.*, **72**, 3, pp. 648–651, 1956.

The author recommends Nickerson's medium for the diagnosis of vaginal moniliasis (*Candida albicans*).

b. Salles (A. A.). **Micoses vulvovaginais.** [Vulvovaginal mycosis.]—*An. bras. Ginec.*, **41**, 3, pp. 129–152, 1956. [English, French, and German summaries.]

In the author's experience at Rio de Janeiro 39% of non-pregnant and 52% of pregnant women harbour yeast-like fungi in the vagina. Reference is also made to infection of the urinary bladder and of the vestibular and Skene glands as well as to the presence of *Candida albicans* in the faeces.

c. Rieper (J. P.). **Estudo colposcópico da micose vaginal.** [Colposcopic study of the vaginal mycoses.]—*An. bras. Ginec.*, **41**, 3, pp. 153–158, 1956. [English, French, and German summaries.]

Diffuse, focal, and pseudomembranous forms of vaginal moniliasis are distinguished.

2518. Mendizabel (A. F.), Inza (R.), & Salaber (J. A. B.). **El tricomicin. Nuevo antibiótico para el tratamiento de colpitis por tricomonas y Candida albicans** [Trichomycin. A new antibiotic for the treatment of the vaginitis caused by trichomonas and by *C. albicans*.]—*Sem. méd. B. Aires*, **107**, 15, pp. 790–794, 1955.

Twenty-four cases of vaginal moniliasis, 9 of trichomoniasis, and 1 of mixed infection were treated for 3 days with 1 vaginal tablet of 50,000 units of trichomycin daily. Eight cases of moniliasis showed a clinical cure and in others a notable improvement was recorded. Of the trichomoniasis cases, 3 were cured and 2 showed improvement.

2519. Castanedo (C. [A.]). **Onicomicosis por Monilia (Candida albicans).** [Onychomycosis caused by *Monilia* (*C. albicans*).]—*Rev. Sif. Leprol.*, **12**, 1, pp. 52–55, 1 fig., 1956.

An oval whitish lesion of the middle fingernail of the right hand of a 30-yr.-old woman in Cuba was caused by *C. albicans*. There was no paronychia.

2520. Scales (I. K.), Van Huysen (G.), & Summers (W. A.). **Oral fungus infection; candidiasis albicans.**—*Oral Surg.*, **9**, 9, pp. 970–977, 1956.

2521. Negroni (P.) & Bortol (A.). **Contribución al estudio de la flora micológica de la bilis humana.** [A contribution to the study of the fungi of the human bile.]—*Rev. Inst. Malbran*, **16**, 2, pp. 126–128, 1954.

The bile of 22 patients obtained by duodenal drainage was treated with 10% citric acid and cultivated on Sabouraud and Czapek agars. Yeast cells were fre-

quently seen and *Candida albicans* was isolated from 6 cases. Species of non-pathogenic yeasts and moulds were also found.

2522. Bešťáková (Zdeňka), Čestimír (Kalina), & Padevět (M.). **Meningo-encephalitis způsobená Candidou pseudotropicalis.** [Meningo-encephalitis caused by *Candida pseudotropicalis*.]—*Čas. Lék. čes.*, **45**, 43, pp. 1185–1188, 1956.

Meningoencephalitis, reported from the Bacteriological-Serum Clinic in Prague, in a 4-yr.-old boy, was suspected to be caused by *C. pseudotropicalis* which was isolated from the spinal fluid.

2523. Popchristov (P.), Bogdanov (I.), & Balbanow (W.). **Über die Rolle der normalen Mikrobenflora des Menschen und das Auftreten von Moniliasis und bakteriellen Infektionen nach Anwendung von Antibiotika.** [On the role of the normal microbiol flora of Man, and the occurrence of moniliasis and bacterial infections following the use of antibiotics.]—*Dtsch. Gesundh.-Wes.*, **11**, 46, pp. 1560–1567, 1956.

2524. Staib (F.). **Rhodotorula, ihr Vorkommen im menschlichen Körper.** [Rhodotorula, its occurrence in the human body.]—*Zbl. Bakt.*, Abt. 1, **167**, 1, pp. 86–93, 1956.

2525. Rolle (M.) & Kolb (E.). **Über das Vorkommen von Hefen und hefeähnlichen Mikroorganismen in Pansen von Wiederkäuern.** [On the occurrence of yeasts and yeast-like micro-organisms in the rumen of Ruminants.]—*Zbl. Bakt.*, Abt. 1, **162**, 4–5, pp. 304–309, 4 fig., 1955. [English, French, and Russian summaries.]

At the Tierhygienisches Institut, University of Münich, only isolated yeasts were detected in over 100 samples of rumen contents of oxen, sheep, and goats, and the organisms were unable to multiply therein.

2526. Hensler (N. M.) & Cleve (E. A.). **Chronic benign residuals of coccidioidomycosis.**—*Arch. intern. Med.*, **98**, 1, pp. 61–70, 9 fig., 1956.

Following a discussion illustrated by 6 cases from the Dept of Medicine, Letterman Army Hospital, San Francisco, and the 3275th U.S.A.F. Hospital, Parks Air Force Base, California, the authors conclude that asymptomatic pulmonary residuals in coccidioidomycosis (*Coccidioides immitis*) are in general benign. Surgery is required only where there is severe or persistent haemoptysis or large organized pleural effusions.

2527. Straub (M.) & Schwarz (J.). **Primary pulmonary arrested lesions of coccidioidomycosis and histoplasmosis. A study of autopsy material in Tucson, Arizona.**—*Amer. J. clin. Path.*, **26**, 9, pp. 998–1009, 12 fig., 1956.

2528. Floch (H.). **Intradermo-réactions à la coccidioidine et coccidioidomycoses.** [The skin test with coccidioidin and coccidioidomycosis.]—*Publ. Arch. Inst. Pasteur Guyane franç.*, 378, 4 pp., 1955.

Of 88 healthy individuals, 25% reacted weakly to coccidioidin in French Guinea but as all the positive reactors reacted strongly to histoplasmin it is concluded that coccidioidomycosis is not endemic in the region.

2529. Negroni (P.) & Daglio (C. A. N.). **Microfitos de las tierras de Tucumán y Santiago del Estero.** [Microfungi of the soil in Tucuman and Santiago del Estero.]—*Rev. Inst. Malbrán*, **16**, 2, 115–119, 1954.

Coccidioides immitis was not found by culture or guinea-pig inoculation of 10 soil samples from areas where coccidioidomycosis is endemic.

2530. Reis (J. B.) & Bei (A.). **O líquido cefalorraqueano no diagnóstico da criptococose do sistema nervoso.** [The cephalospinal fluid in the diagnosis of cryptococcosis of the nervous system.]—*Arch. Neuro-psiquiat. (S. Paulo)*, **14**, 3, pp. 201–212, 1956. [English summary.]

By examination of the cerebrospinal fluid the authors have diagnosed 8 cases of *Cryptococcus neoformans* infection in 3 yr. Hypertension was always recorded. The cell count was between 9 and 411 (in 1 case 1800) cells/cu. mm. Proteins were increased between 32 and 140 mg. % and the sugar content was low.

2531. Wettingfeld (R. F.), Schmidt (E. C. H.), Naegele (C. F.), & Doerner (A. A.). **Systemic cryptococcosis without central nervous system involvement: a case report.**—*Ann. intern. Med.*, **44**, 6, pp. 1259–1264, 1956. [21 ref.]

2532. Gosling (H. R.) & Gilmer (W. S.). **Skeletal cryptococcosis (torulosis); report of a case and review of the literature.**—*J. Bone Jt Surg.*, **38A**, 3, pp. 660–668, 1956.

2533. Canese (A.), Hamuy (J.), Ramain (I.), & Portillo (C.). **Diagnóstico de un caso de cryptococosis meningea.** [Diagnosis of a case of meningeal cryptococcosis.]—*Hospital (Rio de J.)*, **48**, 6, pp. 729–734, 1955.

A case of meningitis due to *Cryptococcus neoformans* is reported as the 2nd autochtonous case from Paraguay.

2534. Jufe (R.) & Llosa (J. B.). **A propósito de cuatro casos de criptococosis torulosis humana.** [Four cases of human cryptococcosis.]—*Pren. méd. argent.*, **43**, 18, pp. 1436–1441, 1956.

The authors report 5 cases from Argentina; 2 showed localizations in the lungs and brain and the last had a localization in the tibia. About 15 cases have been diagnosed in Argentina.

2535. Caruso (G.). **Sulle conoscenze attuali della diffusione della istoplasmosi nel mondo (Revista sintetica).** [On the present knowledge of the global distribution of histoplasmosis. (Synthetic review).]—*Rass. int. Clin. Ter.*, **37**, 3, pp. 97–100, 1957.

2536. a. Drouhet (E.) & Schwarz (J.). **Comparative studies with 18 strains of Histoplasma; morphology in tissues and virulence of African and American strains.**—*J. Lab. clin. Med.*, **47**, 1, pp. 128–139, 1956.

b. Schwarz (J.) & Drouhet (E.). **Morphologic features of an African strain of Histoplasma in hamsters and mice.**—*Arch. Path.*, **64**, 4, pp. 409–413, 1 fig., 1957. [*B.H.*, **33**, p. 182.]

2537. Furcolow (M. L.). **The clinical diagnosis of histoplasmosis.**—*Postgrad. Med.*, **20**, 4, pp. 349–364, 1956.

A provisional clinical classification of histoplasmosis (*Histoplasma capsulatum*) is made under the following headings: severe, including chronic progressive, acute progressive, and acute epidemic infections; moderately severe; mild; asymptomatic; and finally exogenous or endogenous reinfections.

2538. Moffit (G. W.), Morgan (B. H.), & Cameron (G. M.). **The isolation of Histoplasma capsulatum from sputum as a diagnostic procedure.**—*J. Lab. clin. Med.*, **47**, 3, pp. 499–502, 1956.

2539. Silberg (S. L.) & Hinton (A.). **Actidione medium and inoculation of Mice as means of isolating Histoplasma capsulatum from clinical specimens.**—*Amer. J. clin. Path.*, **26**, 12, pp. 1482–1485, 1956. [*B.H.*, **32**, p. 626.]

2540. Kao (C. J.) & Schwarz (J.). **Heat resistance of seven strains of Histoplasma.** —*J. infect. Dis.*, **99**, 3, pp. 219–221, 1956.

All the strains of *H. capsulatum* tested succumbed after 1 hr. at 50° or 5 min. at 60°.

2541. Serpa (J.). **Primeiros testes histoplasmínicos em escolares do Recife.** [First histoplasmin tests on school children in Recife].—*An. Fac. Med. Recife*, **16**, 2, pp. 223–229, 2 graphs, 1956. [*B.H.*, **33**, p. 125.]

2542. a. Shubin (H.) & Corper (H. J.). **Tuberculin, histoplasmin, blastomycin and coccidioidin testing by a new intradermal method in 1400 patients.**—*Tuberculology*, **16**, 2, pp. 130–134, 1956.

b. Schubert (J. H.), Ajello (L.), Cooper (Joyce S.), & Runyon (Laliah C.). **Evaluation of histoplasmin and yeast phase antigens derived from a single strain of Histoplasma capsulatum in complement fixation test.**—*J. Bact.*, **69**, 5, pp. 558–562, 1955. [*B.H.*, **30**, p. 975.]

c. Lamb (L. E.). **Electrocardiographic findings of pericarditis and histoplasmin sensitivity.**—*Amer. Heart J.*, **53**, 2, pp. 301–304, 1957.

2543. a. Hoshishima (K.), Kokuma (S.), Kusunoki (N.), Yogiashi (Y.), Watanabe (M.), Kuwahara (R.), Okabe (H.), Namekata (T.), Watanabe (K.), Sato (S.), Yabuki (M.), Kohayakawa (G.), & Sasaki (K.). **The incidence of histoplasmin reactors in Sendai City and several places in Fukushima prefecture.** —*Fukushima J. med. Sci.*, **2**, 3, pp. 93–97, 1955.

This note from the Fukushima Medical College reports the results of a histoplasmin skin-testing survey. Among workers at a confectionary and pupils at a junior high school, situated near the United States army camp in Sendai City, the incidence of positive reaction was high (20 of 55 and 42 of 100, respectively).

At Koryama City there were 15 reactors of 253, 5 of them being officers of a medical organization. Of 1,417 pupils at a school in the Bange district in Aizu, a mountainous rural port of the Fukushima prefecture, only 2 were positive.

b. Hoshishima (K.), Shozo (K.), Orikasa (M.), Watanabe (A.), Kohayakawa (G.), Shoji (K.), Takeda (N.), Kondo (Y.), Ito (C.), & Sasaki (K.). **Studies on the histoplasmin reaction. II. The incidence of histoplasmin reactors among Children and Pupils in Fukushima City and in Motomiya town.**—*Fukushima J. med. Sci.*, **2**, 4, pp. 189–192, 1955.

In continuation, the authors made tests at a boys' and a girls' high school in Fukushima City (9/1,355 and 10/405 positive, respectively) and at a primary, a secondary, and a high school in Motomiya town (3/1,451, 17/841, and 2/498, respectively). There were no marked differences between regions, schools, or ages.

2544. Grant (W. G.). **Histoplasmosis ; report of a case and review of the literature.** —*Canad. med. Ass. J.*, **75**, 12, pp. 1024–1027, 1956.

2545. Cullen (J. H.), Hazen (Elizabeth), & Scholdager (R.). **Two cases of histoplasmosis acquired in felling a decayed tree in the Mohawk Valley.**—*N.Y. St. J. Med.*, **56**, 22, pp. 3507–3510, 1956.

2546. Maas (L. C.) & Riart (G. A.). **Un caso de histoplasmosis.** [A case of histoplasmosis.]—*Arch. Pediat. Uruguay*, **25**, 1, pp. 5–21, 1954.

A case of systemic histoplasmosis with oropharyngeal lesions in a 10-yr.-old boy from Asuncion, Paraguay. The patient was unsuccessfully treated with sulphamides.

2547. Gálvez Brandon (J.) & Arredondo (J. J.). **Contribución al estudio de la histoplasmosis en la cuenca del Huallaga Superior.** [A contribution to the study of histoplasmosis in the valley of the Huallaga Superior.]—*Rev. peru. Tuberc.*, **16**, 43, pp. 231–246, 14 fig., 1956. [*B.H.*, **32**, p. 1153.]

2548. Bellard (E. P.), Briceño-Iragorry (L.), Pardo (I.), Requena (A.), & Pollak (L.). **La histoplasmosis en Venezuela.** [Histoplasmosis in Venezuela.] —*Gac. Méd. Carácas*, **63**, 3–4–5, pp. 191–208, 1956.

A primary non-evolutive form of histoplasmosis was acquired during the exploration of a cave. *Histoplasma capsulatum* was isolated from the sputum.

2549. Velutini (L. E.), Borelli (D.), & Rodríguez-Garcilaso (G.). **Histoplasmosis. Nota preliminar sobre un caso proveniente de Barinas con localizaciones cutáneo-mucosas.** [Histoplasmosis. Preliminary note on a case in Barinas with mucocutaneous lesions.]—*Gac. Méd. Carácas*, **62**, 5–6, pp. 157–168, 1955.

This is the 3rd case of histoplasmosis recorded in Venezuela. The patient was the driver of a jeep car over the dusty roads of the western plainlands. *Histoplasma capsulatum* was found in the tissues and cultures were obtained.

2550. Floch (H.). **L'histoplasmose en notre département sud-américain de la Guyane Française.** [Histoplasmosis in our S. American department of French Guiana.]—*Rev. Path. gén., Paris*, **56**, 678, pp. 780–792, 1956.

2551. Pierini (D. O.). **Histoplasmosis. A propósito de seis observaciones.** [Histoplasmosis. Report of six cases.]—*Arch. argent. Derm.*, **4**, 4, pp. 337–362, 1954. [English, French, and German summaries.]

The 6 patients were adult males, 43–56 yr. of age, who showed ulcerous and granulomatous lesions of the buccal cavity. One also had 2 lesions of the lungs. A clinical cure, persisting for at least 2 years, was obtained in all the patients by the administration of sulphonamides.

It seems that the infection was acquired in the cities of Buenos Aires and Rosario or in the surrounding areas.

2552. Negroni (P.) & Briz de Negroni (C.). **Estudio micológico de dos hongos similares al Histoplasma capsulatum.** [Mycological study of two fungi resembling *H. capsulatum*.]—*Rev. Inst. bact. Malbrán*, **16**, 3, pp. 157–164, 1954. [English summary.]

Of 2 species showing tuberculate macroconidia, 1 was isolated from the soil and identified as *Thielavia sepedonium* Emmons and the other, which appeared in cultures from a case of histoplasmosis together with *H. capsulatum*, was classified as *Sepedonium* sp. The differential characteristics are summarized.

2553. Zablotskii (T. M.). О применении РСК при диагностике эпизоотического лимфангоита Лошадей. [Diagnosis of epizootic lymphangitis in Horses by the complement fixation test.]—*Trud. Moskow vet. Acad.*, **12**, pp. 26–36, 1956. [*V.B.*, **27**, p. 515.]

An autoclaved aqueous extract of *Cryptococcus farciminosus* [*Histoplasma farciminosum*] cultures, after treatment for 24 hr. with alcohol, proved a very suitable antigen both for complement fixation and the precipitin reaction in studies of equine epizootic lymphangitis.

The complement fixation test is positive a few days before clinical symptoms appear when horses are infected by *H. farciminosum* pus or pure culture. The max. antibody titre occurs early in the development of an experimental infection.

Later, even in the presence of a considerable number of nodules, the complement fixation titre decreases and becomes negative. Secondary infection was attempted by making 20 subcutaneous inoculations at 6-day interval and after 8 months of clinical observation it became evident that horses are resistant to such an infection.

2554. Baker (R. D.). **Pulmonary mucormycosis.**—*Amer. J. Path.*, **32**, 2, pp. 287–313, 5 pl. (14 fig.), 1956. [27 ref.]

From Duke University School of Medicine details are given of 6 new cases of pulmonary mucormycosis, 1 previously reported by R. B. Baker & A. O. Severance (Abs. in *Amer. J. Path.*, **24**, pp. 716–717, 1948) and 3 cases reported by others are noted (J. B. Lloyd, L. L. Sexton, & A. T. Hertig, *Amer. J. Obstet. Gynec.*, **58**, pp. 548–552, 1949; F. P. Martin *et al.*, *J. Pediat.*, **44**, pp. 437–442, 1954, L. E. Zimmerman, *Amer. J. clin. Path.*, **25**, pp. 46–65, 1955.) No fungus was isolated but it appeared probable that at least some of the cases were due to *Rhizopus*.

2555. Bauer (H.), Wallace (G. L.), & Sheldon (W. H.). **The effects of cortisone and chemical inflammation on Rhizopus infection.**—*Amer. J. Path.*, **32**, 3, p. 627, 1956.

2556. Lie Kian Joe & Njo-Injo Tjoeieng. **Mycosis of the stomach caused by a phycomycete. Report on a case.**—*Docum. Med. geogr. trop.*, **8**, 3, pp. 249–254, 1956.

2557. De Azevedo (P. C.). **Algumas considerações sôbre a Blastomicose Sul-Americana e seu agente etiológico.** [Some considerations on South American blastomycosis and its etiological agent.]—viii+87 pp., 26 fig., Belem-Para-Brazil, 1954. [153 ref.]

This thesis from the University of Para provides a general account of S. American blastomycosis (*Paracoccidioides brasiliensis*).

2558. Lacaz (C. L.) & Cruz (Rosemary Valente). **Blastomicose sul-americana.** [South American blastomycosis.]—*Hospital* (*Rio de J.*), **46**, 4, pp. 393–414; 5, pp. 500–523, 1954.

This is a list of 546 ref. to S. American blastomycosis (*Paracoccidioides brasiliensis*) up to 1952 and an alphabetical index of authors.

2559. Bopp (C.). **Algumas considerações sôbre a micose de Lutz no Rio Grande do Sul.** [Considerations on Lutz's disease in Rio Grande do Sul.]—*An. Fac. Med. Porto Alegre*, **15**, pp. 97–123, 1955. [English summary.]

Lutz's disease (S. American blastomycosis) is not rare in Rio Grande do Sul, the southern State of Brazil. Between 1949 and 1955 the author found 29 cases and he states that *Paracoccidioides brasiliensis* usually enters through lesions of the oropharynx. A case is reported with subcutaneous nodular lesions of the left foot which later ulcerated and showed a granulomatous aspect. The infection spread slowly, invading the leg, and 2 yr. later new lesions appeared on the nose and in the lungs. The author thinks that the cutaneous lesions were primary and due to an injury.

2560. Lacaz (C. da S.) & Bolognani Jr. (H.). **Conservação de culturas do Paracoccidioides brasiliensis em ágar-Sabouraud, protegidas com vaselina líquida.** [Storage of cultures of *P. brasiliensis* on Sabouraud's agar, protected with liquid paraffin.]—*Hospital* (*Rio de J.*), **49**, 3, pp. 363–366, 1956. [*T.D.B.*, **55**, p. 94.]

2561. Almeida (F. de). **Nova contribuïção para o estudo da morfologia do Paracoccidioides brasiliensis nos tecidos.** [A new contribution to the study of the morphology of *P. brasiliensis* in the tissues.]—*An. Fac. Med. S. Paulo*, **28**, 2, pp. 149–151, 1954.

This is a comparative study of the parasitic form of *P. brasiliensis* in biopsy skin tissue from a case of South American blastomycosis and of the fungus producing cheloid blastomycosis or Lobo's disease (*Mycopathologia*, **4**, p. 356, 1949). The author considers the causal organisms identical, that *P. brasiliensis* can induce different clinical forms, and that the parasitic form of the fungus is polymorphic.

2562. Borelli (D.). **Las aleurias de Paracoccidioides brasiliensis.** [The aleuriospores of *P. brasiliensis*.]—*VI Cong. Venezolano Cienc. Méd.*, **4**, pp. 2241–2253, 1955.

Eight strains of *P. brasiliensis* produced abundant aleuriospores on slide cultures confirming the descriptions of Neves and Bogliolo (**1**, No. 2259). Nevertheless, the author is of the opinion that these findings do not justify a modification of the generic classification.

2563. Negroni (P.). **Formas evolutivas de la blastomicosis sudamericana.** [Evolutive forms of South American blastomycosis.]—*Rev. méd. Córdoba*, **44**, pp. 274–277, 1956.

The oropharyngeal lesions are considered as the usual primary ones; primary lesions of the lungs as exceptional.

2564. Fava Netto (Celeste). **Estudos quantitativos sôbre a fixação do complemento na blastomycose sul-americana com antigeno polissacaridico.** [Quantitative studies of the complement fixation test in South American blastomycosis, using a polysaccharide antigen.]—*Arch. Cirurg. clin. exp. S. Paulo*, **18**, 5–6, pp. 197–254, 1955. [*T.D.B.*, **54**, p. 354.]

No positive reaction was recorded by the techniques described among 65 blood donors and in 39 cases of pemphigus. One positive reaction was found in a series of 40 histoplasmin positive skin reactors but this became negative after 2 months. Three positive reactions were observed among 40 cases of leprosy and 2 among 50 cases of syphilis.

In 100 cases of South American blastomycosis studied, 83 positive reactions were recorded by the method of Stein and Van Ngu and 86 positive by the method of Wadsworth. The reaction tends to become negative in patients treated with sulphamides but it was negative in one treated patient showing lesions of the oral cavity in which *Paracoccidioides brasiliensis* could be found by direct examination. Treatment should be continued in patients with a positive reaction and clinical cure. In some patients with chronic forms of the disease and treated without benefit with sulphamides no significant drop in the antibody titre was recorded. The author is of the opinion that the existence of deep seated lesions cannot be excluded on the basis of a negative complement fixation test.

2565. Mosto (L. F.). **Blastomicosis sudamericana. A propósito de seis observaciones.** [South American blastomycosis. Report of six cases.]—*Arch. argent. Derm.*, **6**, 1, pp. 69–90, 1956. [English, French, and German summaries.]

The 6 patients were adult males and all had ulcerous *Paracoccidioides brasiliensis* lesions of the oropharynx. In 2 the lungs were involved. The treatment with sulphonamides was effective against the oropharyngeal lesions in 5 cases. The combination of sulphadiazine, sulphamerazine, and sulphametazine was used. The patients seem to have acquired the infection in hot humid and woody zones which cover wide areas of the Argentine provinces of Misiones, Corrientes, Chaco, and Formosa.

2566. Casavilica Rubio (A.). **La blastomicosis Sudamerica en el Perú.** [South American blastomycosis in Peru.]—*Rev. méd. peru.*, **27**, 325, pp. 610–656, 15 fig., 1956. [77 ref. *T.D.B.*, **55**, p. 325.]

A report of 23 cases.

2567. Da Silva (W. B.). **Registro de um caso de blastomicose sul-americana generalizada com comprometimento cardiaco.** [Report of a case of generalized South American blastomycosis with cardiac involvement.]—*An. Fac. Méd. Recife*, **16**, 2, pp. 235–244, 6 fig., 1956. [11 ref.]

2568. Cunha (J. C.), Magaldi (C.), & Barros (C.). **Localização nervosa da blastomicose sul-americana.** [Nervous localization of South American blastomycosis.]—*Rev. bras. Méd.*, **12**, 10, pp. 702–706, 1955.

2569. Favo Netto (Celeste) & Del Negro (G.). **Localização testiculo-epididimaria da blastomicose sul-americana.** [Localization of South American blastomycosis in the testicle and epididymis.]—*Rev. Ass. méd. bras.*, **1**, 2, pp. 210–213, 3 fig., 1954. [English summary. 5 ref. *T.D.B.*, **54**, p. 355.]

After drawing attention to the genital localization of *Paracoccidioides brasiliensis* infection, the authors briefly summarize cases mentioned in the literature and report one they observed for 13 months in which sulphadiazine gave rapid cure.

2570. Seijas (O.). **Contribución al estudio de la paracoccidioidomicosis osea.** [A contribution to the study of the osseous lesions in paracoccidioidomycosis.] —*Gac. Méd. Carácas*, **63**, 3–5, pp. 225–242, 1956.

A case of humerus involvement is described. The patient did not show any other sign of infection by *Paracoccidioides brasiliensis*. Surgical treatment and sulphamides were effective.

2571. Maffei (W. E.) & Hungria (J. S.). **Tumor blastomicótico do femur.** [Blastomycotic tumour of the femur.]—*Arch. Hosp. S. Casa S. Paulo*, **2**, 1, pp. 41–54, 1956. [English summary.]

A case of infection by *Paracoccidioides brasiliensis* localized in the neck of the femur. A lymph node of the cervical region was also attacked but the primary lesion could not be discovered. A clinical recovery was obtained after excision of the lesion and administration of sulphonamides.

2572. Souza de (J. L.), Lacaz (C. S.), & Pasqualucci (M. E. A.). **Rinosporidiose ocular.** [Ocular rhinosporidiosis.]—*Rev. Inst. A. Lutz* (*S. Paulo*), **16**, pp. 154–160, 1956.

Rhinosporidiosis (*Rhinosporidium seeberi*) of the lower right eyelid is described. This is the 10th case of human rhinosporidiosis recorded in Brazil; the other 9 cases are reviewed.

2573. Mayer (H. F.) & Diaz (B. E.). **Primer caso de rinosporidiosis (Rhinosporidium seeberi) en bovinos de la Argentina.** [First case of rhinosporidiosis (*R. seeberi*) in cattle in Argentina.]—*Act. Asoc. argent. Enferm. transmis.*, **3**, 2, pp. 35–37, 1954.

Report of a case from the Chaco Province, Argentina.

2574. Mayer (H. F.) & Diaz (B. E.). **Primer caso de rinosporidiosis (Rhinosporidium seeberi) en Canis familiaris.** [First case of rhinosporidiosis in the dog.]—*An. Inst. Méd. region.* (*Resistencia*), **4**, 1, pp. 2–8, 1954.

A case of *Rhinosporidium seeberi* infection is reported in a dog in the Chaco Province, Argentina. A polypoid granulomatous lesion on the anterior part of the nose was found.

2575. Londero (A. T.) & Cercai (E.). **A esporotricose em Santa Maria.** [Sporotrichosis in Santa Maria.]—*Publ. No. 2, Centro de Pesquisas Bioquím. Fac. Farm. Méd. de Santa Maria, Rio Grande do Sul, Brasil*, 36 pp. Imp. Universitaria, Porto Alegre, 1956.

A case of upper limb infection attributed to injuries by the thorns of the cactus, *Cereus peruvianus*. *Sporotrichum schenckii* was isolated from the lesions of the patient and from the thorns of the cactus.

2576. Merklen (F. P.), Rivalier (E.), Moline (R.), & Mercier (J. N.). **Un cas de sporotrichose cutanée.** [A case of cutaneous sporotrichosis.]—*Bull. Soc. franç. Derm. Syph.*, **63**, 4, pp. 425–426, 1956.

Sporotrichum schenckii was isolated on Sabouraud's dextrose agar and on agar with neomycin from the confluent adherent, squamous crusts, 2–3 cm. diam., possibly resulting from an injury, on the left forearm of a 50-yr.-old fitter.

2577. Gonçalvez (A. P.) & Peryassu (D.). **A esporotricose no Rio de Janeiro, 1936–1953.** [Sporotrichosis in Rio de Janeiro 1936–1953.]—*Hospital (Rio de J.)*, **46**, 1, pp. 1–12, 1954. [English summary.]

Among 24,523 patients attending 2 dermatologic clinics at Rio de Janeiro, 68 cases (38 in females) of sporotrichosis (*Sporotrichum schenckii*) were diagnosed between 1936 and 1953. Three patients acquired the infection from the same source. In 2 cases the lesions were localized in the ears as a consequence of the perforation of the ear lobule. The skin test with sporotrichin was made in 33 cases and was positive in all.

2578. Gonçalvez (A. P.) & Mattos (O.). **Reinfecção esporotricósica. Relato de um caso.** [Sporotrichosic reinfection. Report of a case.]—*An. bras. Derm. Sif*, **31**, 4, pp. 157–160, 1956. [English summary.]

A patient developed a lesion of verrucous sporotrichosis of the neck in 1945 from which *Sporotrichum schenckii* was isolated. The lesion yielded to a treatment with iodides. Nine years later similar lesions of the hand were observed which persisted for 1 yr. *S. schenckii* was isolated again and the treatment was again effective. The patient said that a similar lesion developed in his elbow in 1953. The authors consider this to be a case of reinfection and not a relapse because the localizations of the lesions were different and because of the long time between healing of a lesion and the development of the next. The patient was an upholsterer and the continuous exposure to contaminated materials, such as wood and straw would facilitate frequent infections.

2579. Lacaz (C. da S.). **Acção "in vitro" do antimoniato de N-metilglucamina sôbre o Sporotrichum schenckii e o Paracoccidioides brasiliensis.** [The *in vitro* action of N-methylglucamine on *S. schenckii* and *P. brasiliensis*.]—*Folia clin. biol. (S. Paulo)*, **21**, 4, pp. 229–232, 1954.

A case of sporotrichosis of the elbow associated with leishmaniasis was diagnosed by the author. The administration of the antimony compound N-methylglucamine was followed by healing of the ulcer. A similar result was obtained by Batista *et al.* in a similar case (*Rev. paul. Med.*, **41**, pp. 24–27, 1952). The inhibitory effect of the drug was tested on Sabouraud agar and up to 15 mg./ml. did not produce an evident effect on the growth of 5 strains of *S. schenckii* and 5 of *P. brasiliensis*.

2580. Magalhães (O.). **Ensaios de Micologia. Contribuïção para o conhecimento das esporotricoses.** [Assays in Mycology. A contribution to the study of sporotrichosis.]—*Mem. Inst. Osw. Cruz*, **54**, 2, pp. 393–408, 1956.

The importance of the culture for the diagnosis of sporotrichosis is emphasized.

A case of *Sporotrichum schenckii* infection of the oral cavity with yeast-like intracellular forms from which an atypical culture was obtained is described.

2581. Castro (B. M.). **Esporotricosis. Erros de diagnóstico.** [Sporotrichosis. Errors in diagnosis.]—*Rev. Méd. Cir. S. Paulo*, **16**, 2, pp. 73–80, 1956. [English summary.]

Notes on the skin test with sporotrichin and cultures for the diagnosis of sporotrichosis (*Sporotrichum schenckii*).

2582. Lacaz (C. da S.), Castro (R. M.), Ramos (H.), & Vega (V. S.). **Interessante fenomeno de variação em amostras de Sporotrichum schenckii.** [Interesting phenomena of variation in strains of *S. schenckii*.]—*Hospital* (*Rio de J.*), **50**, 1, pp. 73–77, 1956. [English summary.]

Five strains of *S. schenckii* were cultivated on Sabouraud glucose agar at 37° C. for 2 yr. Colonies of Gram — rods resembling bacteria developed. Mass transfers of these to Sabouraud glucose agar at room temp. gave typical colonies of *S. schenckii*. It is inferred that the bacteria-like elements were produced by the fungus.

2583. Borelli (D.). **Sporotrichum gougeroti — Phialophora jeanselmei; Phialophora gougeroti.**—*Acta cient. venez.*, **6**, 2, pp. 80–81, 1955.

The author studied the strain of *S. gougerotii* isolated by Young & Ulrich [**2**, No. 436] and observed that its morphology is similar to that of *P. jeanselmei*. Typical phialospores are produced on slide cultures. The new combination *P. gougerotii* is proposed and *Torula bergeri* is included in the synonymy (**2**, No. 573). It is interesting, the author emphasizes, that cases of sporotrichosis, chromoblastomycosis [**1**, No. 1653], and maduromycosis have been attributed to the same species.

2584. Capponi (M.), Sureau (P.), & Segretain (G.). **Penicillose de Rhizomys sinensis.** [Penicillosis of *Rhizomys sinensis*.]—*Bull. Soc. Path. exot.*, **49**, 3, pp. 418–421, 1 plate, 1956.

The name *Penicillium marneffei* [nom. nud.] is proposed for a fungus, pathogenic for mice and hamsters, which was isolated from a captive *R. sinensis* from Central Viet-Nam.

2585. Negroni (P.) & Longobardi (L.). **Infección de las vías urinarias por Monosporium sp.** [Infection of the urinary ducts by *Monosporium* sp.]—*Rev. Inst. bact. Malbrán*, **16**, 3, pp. 153–156, 1954. [English summary.]

A fungus closely related to *M. olivaceum* was cultivated from the urine of a patient with renal lithiasis.

INDEX OF AUTHORS

Abbott, P., 1910.
Aboulafia, R., 359, 1097, 2340.
Abraham, A., 1783.
Achten, G., 2277, 2323, 2497.
Acker, R. F., 208.
Acree, P. W., 1203.
Acrich, M., 1555.
Adams, E., 2148.
Adams, L., 1948.
Adams, R. D., 26.
Adams, W. E., 1014.
Adancueva, J., 2501.
Adriano, S. M., 260, 1565, 1624, 2450.
Agostini, A., 1380.
Aguilera, C. T., 1329.
Aguilera-Maruri, C., 428, 2482.
Agzamov, R., 954.
Ahmed, V. N., 263.
Ahumada, J., 529.
Ainsworth, G. C., 189, 251, 843, 844, 845, 1717, 1718, 1719, 1720, 1721, 2243.
Aiso, K., 210.
Aizawa, H., 1890.
Ajello, L., 84, 600, 651, 720, 874, 918, 1022, 1149, 1253, 1259, 1293, 1722, 1828, 1980, 2068, 2073, 2148, 2270, 2542b.
Akün, R., 729, 730.
Akün, S., 241.
Akyel, M., 107.
Alajouanine, T., 971.
Alayon, F., 505.
Albers, D. D., 356.
Albrecht, J., 764.
Alecrim, I. da C., 1755, 1756.
Alés Reinlein, J. M., 1016, 1517, 1713.
Alexander, J. T., 1260.
Alfonso-Armenteros, J., 846.
Alguacil, D. C. G., 270.
Alix Y Alix, J., 757.
Alkiewicz, J., 1381, 1649, 1680, 1681.
Allison, S. D., 2281.
Almeida, F. de, 986, 2231, 2473, 2561.
Alperovitch, A., 1637.
Alslev, J., 1589.
Altamira, J., 1859.
Altman, P. L., 2073.
Altshuler, C. H., 492.
Alvarez Bravo, A., 808.
Alvarez de Choudens, J. A., 752.
Alvarez de Lara y García, R., 624, 1927.
Alznauer, R. L., 2419.
Amatuzio, D. S., 1488.
Amberson, J. M., 43.
Ambrosioni, P., 1592, 1883.
Amino, E., 827, 1067.
Amlie, R., 809.
Ammann, A., 1430.
Amrein, H. P., 850.
Amromin, G., 1246.
Amuchastegui, S. R., 1859.
Anders, W., 1374.
Andersen, H. A., 1015, 2264.
Andersen, H. C., 2357.
Anderson, A. E., 700.
Anderson, L. E., 452.
Anderson, W. H., 2037.
Andleigh, H. S., 821, 1077, 1442, 2346, 2347.
André, H., 1551.
André, J., 2076, 2452.
Andres, J., 239.
Andreu Urra, J., 758, 1318.
Andriasyan, G. K., 1666.
Angeloff, N., 934.
Anguli, V. C., 1228.
Anscombe, A. R., 1185.
Ansel, M., 799, 1351, 1881, 2504a.
Ansell, H. B., 911.
Antalóczy, Z., 1728.
Antos, R. J., 1344.
Antunes, M. M., 1662, 1664, 1707, 2269.
Aoki, Y., 1396.
Aprigliano, F., 1230.
Arai, T., 210.
Aranda Reyes, B., 302.
Ardillou, 2026.
Arel, F., 335.
Arentzen, W. P., 45.
Armen, R. M., 1906.
Armstrong, B. H., 1394.
Armstrong, E. C., 2121.
Armstrong, W. B., 1505.
Arnold, A. C., 8, 200, 1004.
Arnott, A. J., 2388.
Aronson, J. D., 1026.
Aronson, S. M., 576.
Arora, M. M., 2410.
Arredondo, J. J., 2547.
Arroyo, L., 714, 1076.
Artagaveytia-Allende, R. C., 193, 501, 714, 1076, 1746, 2386.
Ashbel, R., 2042.
Ashner, M., 2041.
Assis-Lopes, L., 2511.
Astley, R., 2392.
Atkins, D., 1723, 1724.
Atkinson, E. A., 519.
Atsuji, C., 1431.
Auckland, G., 1044.
Audebaud, G., 1279, 2080, 2081.
Aufdermaur, M., 913.
Ausherman, R. J., 789, 2363.
Aussannaire, M., 1313.
Austwick, P. K. C., 910, 1013, 1191, 1720, 1721, 2023.
Avery, R. J., 1110, 1735.
Ayres, S., 880.
Ayres, W. W., 1488.
Azulay, R. D., 503, 504, 987, 1516, 1806.

Babad, J., 1108.
Bacon, A. E., 747.
Backus, E. J., 1460.
Baer, R. L., 1667, 2204, 2280, 2304, 2307.
Baez, M. M., 2034.
Baggenstoss, A. H., 2264.
Bain, G. O., 1818.
Baird, J. W., 1375.
Bairstow, B., 484.
Baker, D. H., 60.
Baker, K. C., 173.
Baker, L. A., 484, 990, 1212, 1527, 2104.
Baker, O., 2413.
Baker, P. L., 2064.
Baker, R. D., 48, 197, 917, 1627, 1797, 1798, 2462, 2554.
Bakerspigel, A., 578, 1045, 1047, 1957, 2072, 2439.
Bakir, F., 1260.
Balabanoff, V. A., 1960.
Balbanow, W., 2523.
Baldacci, E., 1736.
Baldo, J. I., 2059.
Ball, J. D., 1278.
Ballarini, G., 2024.
Ballenger, C. N., 2262.
Ballowitz, L., 1345.
Balsacq, J., 99.
Bando, Y., 1431.
Bank, E., 839.
Bannatyne, C. C., 1752.
Baptista, L., 1131.
Baranda, F., 672.
Barbosa, F. S., 721.
Bardiaux, M., 2132.
Barker, C. S., 1174.
Barlas, O., 107.
Barlow, A. J. E., 601, 1093, 1101, 1652, 2203, 2289.
Barnard, N. H., 1688.
Barnes, R. A., 2228.
Barnhart, J. V., 246.
Barnum, D. A., 1229.
Barotini, F., 2259.
Barrack, B. B., 57, 175.
Barrière, H., 2052.
Barron, C. N., 1497.
Barros, C., 2568.
Barros Saint-Pasteur, J., 278.
Bartels, H. A., 1302, 1331, 1353.
Barter, A. P., 1443.
Barwasser, N. C., 506.
Barzizza, C. M., 1969.
Basiliou, B., 818.
Bass, B. H., 1050.
Bates, M., 2258.
Batista, A. C., 1755, 2229.
Batte, E. G., 635, 1128.
Battelli, C., 953.
Battigelli, G., 1036.
Batts, E. E., 591.
Bauer, H., 1628, 2148, 2555.
Baum, G. L., 264, 707, 1518, 2249.
Baylin, C. J., 482.
Bayo Bayo, J. M., 368, 423.
Bazex, A., 285, 365, 1296.
Beadenkopf, W. G., 2073.
Beamer, P. R., 1633, 1984.
Beard, A. W., 343.
Beare, J. M., 853, 854, 1376.
Beaver, D. J., 871.
Bebin, J., 746.

Beck, A., 1227.
Beck, F., 358, 2202.
Beckmann, A. J., 1617.
Beebe, R. T., 811.
Beeckmans, G., 2345.
Beer, K., 2432.
Beerens, H., 666, 1446, 1447.
Beeson, P. B., 31.
Bei, A., 2530.
Bell, E. J., 1547.
Bell, J. A., 1294, 2073.
Bell, M., 1136.
Bellard, E. P., 2548.
Belliboni, N., 1131.
Benaim, C., 1777.
Benaím Pinto, H., 279.
Benchakan, V., 2396.
Bender, I. B., 202.
Benedek, T., 602, 918.
Beneke, E. S., 2242.
Benenzon, R., 336.
Benham, R. W., 150, 369, 576, 748, 873, 1116, 1215, 1216, 1693, 2040, 2311.
Bennett, D. T., 225.
Bennett, H. D., 990.
Bentinck-Smith, J., 89.
Bentley, M. L., 372.
Berdibayeff, U. B., 382.
Berenbaum, A. A., 968.
Berendes, J., 1608.
Berengo, A., 687.
Bereston, E. S., 375, 592, 593, 594, 599, 1098, 1392, 1393, 1424, 2406.
Berg, H., 855.
Bergamasco, A., 386.
Bergamini, R., 1870.
Berglund, E. M., 1165.
Bergman, S., 1365.
Bergmann, J. W., 849.
Berkeley, W., 62.
Berlin, C., 2490.
Berman, R. J., 508, 2062.
Bernaerts, J. P., 1475.
Bernard, J., 1877.
Bernstein, I. L., 16.
Bertani, M., 459, 460.
Berthelon, M., 1252.
Bertoye, A., 1330.
Bertrand, 60, 99.
Bertrand, C., 1042.
Bertrand, L., 1287.
Bertrand, M. A., 1334.
Best, C. A., 1767.
Bešťáková, Z., 2522.
Bethenod, M., 1499.
Bettinotti, C., 119.
Beurey, J., 835, 1312.
Beuthe, D., 1582.
Bianco, A. J., 2265.
Bichel, J., 1907, 2119.
Bieberdorf, F. W., 238, 662, 1004, 1085.
Biefang, B. F., 1936.
Bielinski, S., 485.
Biguet, J., 1919, 2177, 2209.
Billings, F. T., 1543.
Bilse, I. M., 904.
Binder, L., 2051.
Binford, C. H., 1544, 1865.
Bingham, E. L., 1850, 1868, 2094.
Binkley, G. E., 772.
Birsner, J. W., 297, 1245, 1520.
Birt, A. R., 1377.
Bisgahard-Frantzen, H., 396.
Bishop, D. W., 2135.
Bittencourt, J., 2397.
Bjørnstad, R. T., 1955.
Black, C. I., 705.
Black, T. C., 961.
Black, W. C., 1741.
Blainey, J. D., 456.
Blake, W. P., 1469.
Blanc, P. E., 1499.
Blanc, P. F., 2043.
Blanco, M. C., 336.
Blank, E., 1069.
Blank, F., 383, 732, 909, 1109, 1110, 1277, 1632, 1650, 1694, 1735, 1962, 2028.
Blaxland, J. D., 117, 1074, 2338.
Blinick, G., 2134.
Block, W. D., 1160, 1201, 1208.
Blumenfeld, C. M., 1246.
Boatwright, H., 857.
Bobbitt, O. B., 1444.
Bocobo, F. C., 29, 199, 392, 516, 914, 1160, 1200, 1201, 1208, 1780.
Boedijn, K. B., 140.
Bogdanov, I., 2523.
Bogliolo, L., 280, 291.
Bogsch, A., 1214.
Bohl, E. H., 22.
Bohls, S. W., 977.
Böhm, F., 1480.
Bolognani, Jr. H., 2560.
Bonatti, A., 69.
Bond, J. O., 1263.
Bond, W. H., 318.
Bonetti Dupont, C. A., 1511.
Bonfiglioli, H., 2044.
Bonmati, J., 2050.
Bontke, E., 1902.
Boone, J. E., 1609.
Bopp, C., 2559.
Bordelon, L., 1897.
Borelli, D., 2057, 2248, 2481, 2491, 2503, 2506a, 2549, 2562, 2583.
Borgen, P. H., 2420.
Borkowska-Trippenbach, B., 361.
Borok, R., 1945, 2272, 2455.
Bortol, A., 2521.
Bory, R., 125, 1130.
Bos, J., 294.
Bosch, Z. E., 1106, 2282.
Bose, S. K., 1370.
Boshes, L. D., 2049.
Bottger, C. W., 919.
Bouckaert, A., 753.
Boudet, C. C., 1106, 2282.
Bouillenne, R., 141, 142, 638.
Bouillenne-Walrand, M., 141, 142, 638.
Bound, J. P., 1903.
Bourgain, 1710.
Bouvet, R., 677.
Bowden, D. H., 2149.
Bowden, J. P., 2189.
Bowers, R., 1607.
Boyer, P., 753, 978.
Boynton, Ruth E., 1837, 2087.
Brabetz, V., 424.
Braccini, L., 521.
Brachmann, F., 945.
Bradley, E. G., 96.
Brady, A. J., 2325.
Branciforti, S., 962.
Brandt, U., 1303.
Brannin, D. E., 938.
Brasher, C. A., 1827, 2442, 2458.
Brass, K., 1491.
Braude, A. I., 2413.
Braun, W., 2326.
Bravo, J., 2246.
Bratlund, H., 1332.
Bremner, R., 1957.
Brena Zorrilla, M., 428.
Brendler, R., 866.
Brenneman, F. S., 1286.
Breslau, A. M., 290, 1813.
Bret, A. J., 2132.
Bretán, N., 1728.
Briceño-Iragorry, L., 2548.
Briceño Maaz, T., 1989.
Bridson, E., 519.
Briggs, M. E., 1472.
Brion, S., 1448, 1737.
Britto, T. de, 723.
Briz de Negroni, C., 69, 972, 2552.
Brock, T. D., 1430.
Brodey, R. S., 1470.
Bromley, C. L., 2333.
Brooksbank, N. H., 1191.
Broughton, R. H., 1669.
Brown, A. S., 2324.
Brown, C., 811.
Brown, R., 209, 2253.
Brown, S., 308, 652.
Browne, S. G., 1575.
Browning, W. H., 1771.
Brueck, J. W., 724, 2154.
Brun, R., 113.
Brune, E., 123.
Brusco, G. R., 1859.
Bruskin, S., 474, 475.
Brusori, G., 1321.
Brutsaert, P., 334, 1284.
Bryant, J., 2077.
Brygoo, E.-R., 111, 112, 1588.
Bryne, H. J., 2054.
Bryner, S., 2099.
Brzin, B., 2480a.
Buchbinder, M., 1302.
Buckingham, W. W., 2458.
Buckle, G., 2429.
Buddingh, G. J., 724.
Budurin, A. A., 2068.
Buechner, H. A., 700.
Bueno de Mesquita, S. J., 524.
Bugallo, O. J., 2515c.
Bullock, M., 1138.
Buncke, C. M., 991.
Bureau, Y., 2052.
Burger, C. H., 1249, 2069.
Burgisser, H., 2027.
Burke, F. G., 559, 807.
Burke, R. C., 63, 732, 922, 998.
Burkett, L. L., 537.
Burr, A. H., 963.
Burton, C. T., 1276.
Büscher, L., 813.
Bushmanova, Mme L. G., 1186.
Bushueff, B. P., 293, 2100.
Bustinza, F., 924.

Buzo Rodriguez, T., 1038.
Byrne, J. L., 1110.

Cader, E. T., 551.
Cain, A., 1831.
Cairns, R. I., 1703.
Caldwell, D. C., 1796.
Callaway, J. L., 917.
Callens, J., 2048.
Calnan, C. D., 1695, 1938.
Camain, R., 2344.
Camara, A., 2397.
Camara, H. A., 2436.
Cameron, G. M., 2538.
Campbell, C. C., 310, 539, 772, 791, 1022, 2073.
Camphyn, R., 510.
Campi, A., 2509c.
Campins, H., 87, 722, 785, 1829.
Campo, C., 1334.
Campo-Aasen, I., 2491.
Campos, C. L., 1513.
Campos, J. de O., 1498.
Campos, S., 2056, 2229.
Canese, A., 2533.
Canon, E., 1038.
Canto Borreguero, G., 229, 757, 1145.
Cap, J., 939.
Caplan, H., 1574.
Capponi, M., 2584.
Caputi, F., 102, 103, 104, 552, 815.
Caramanian, M., 1313.
Caravaglios, F., 306.
Cardenal, C., 918.
Cardona, A., 1243.
Cariker, M., 74.
Carlier, G. I. M., 1094, 1446, 1447.
Carll, W. T., 1192, 1193, 1194, 2021.
Carmichael, J. W., 1818.
Carnaghan, R. B. A., 2338.
Carneiro, L. S., 2056.
Carney, J. W., 595.
Caroline, L., 168, 616, 862, 991, 1105, 1673, 2361.
Caron, J., 2224.
Carpenter, A. M., 814, 2373, 2378.
Carríon, A., 1977.
Carron, R., 1333.
Carslaw, R. W., 2489.
Carson, R. P., 1824a.
Cars Tens, F. W., 495.
Carter, C. F., 191.
Carter, E. B., 564, 2316.
Carter, H. E., 1430.
Carton, C. A., 269, 742.
Caruso, G., 2535.
Carvajal, F., 921.
Casanovas, M., 384, 385, 907, 2493a.
Casas Carnicero, J., 776.
Casavilica Rubio, A., 2566.
Cason, L. R., 1765.
Castanedo, C. A., 2493b, 2493c, 2519.
Castanedo Y Pardo, C., 918.
Castellani, A., 1378, 2341.
Castellano, G. A., 451.
Castillo, C. G., 2230.
Castleton, K. B., 179.
Castrecho Alvarez, J., 1766.
Castro, A., 739.
Castro, B. M., 2581.
Castro, R. M., 1131, 2084, 2582.
Catanei, A., 395.
Cauda-Di Puma, A., 2115.
Cawley, E. P., 857, 918, 2365.
Cawthon, K. S., 374.
Cazin, J., 1874, 1875, 1876.
Ceccaldi, J., 1279.
Ceccarelli, A., 953.
Cellerier, 1177.
Cercai, E., 2575.
Cercos, P., 1108.
Cernea, P., 2010.
Cernès, M., 1173.
Čestimír, K., 2522.
Chabás López, J., 144.
Chakraborty, A. N., 1694.
Chakravarty, N. K., 782.
Chamberlain, D. M., 22, 333, 546, 2073.
Champeau, M. F., 796.
Chang, C. C., 1027.
Chapman, E. N., 1104.
Chapman, S. S., 922.
Chapnick, H. A., 299.
Chaptal, J., 1334.
Charbonneau, P., 2211.
Chardome, J., 931.
Charlin, 25.
Charr, R., 535, 1275.
Charton, A., 2336.
Chattaway, F. W., 601, 1093, 1101, 1652, 2203, 2289.
Chatterjee, M. K., 2067.
Chauvier, G., 2174.
Chavanis, P., 1333.
Chaves-de-Almeida, R. P., 1836.
Chaves, R., 220.
Chediak, A. B., 81.
Chediak, M., 81.
Cheeseman, E. A., 854.
Cherniss, E. I., 1782.
Cheu, S., 743, 1522.
Chick, E. W., 2035.
Chicote, M. N., 1866.
Chin, T. D. Y., 1867.
Chinn, H. I., 8, 200, 1004.
Chorazak, T., 2302.
Chortis, P., 245.
Christensen, O. W., 1840.
Christian, J. R., 2065.
Christie, A., 1826.
Christie, R., 1308.
Christison, I. B., 453.
Christopherson, W. M., 82.
Chu, F., 2430.
Chute, H. L., 250, 1762, 2509a.
Ciferri, R., 1, 42, 2056, 2229.
Cilli, V., 953.
Cipollaro, A. C., 605, 648.
Claessens, H., 1285.
Clagett, O. T., 967, 1020.
Clapp, M. P., 1445.
Clark, D. S., 696.
Clarke, G. H. V., 394, 522.
Clarke, M., 1777.
Clarke, P. R. R., 575.
Claveleau, 330.
Clay, R., 2504a.
Cleve, E. A., 2526.
Clifford, D. H., 951.
Close, H. G., 1703.
Coalson, R. E., 1929.
Cochet, G., 1919, 2177, 2209.
Coenegrachts, J., 943.
Coffey, G. L., 452.
Coffin, D. L., 500.
Cogswell, H. D., 1519.
Cohen, A. C., 553.
Cohen, J. R., 33.
Cohen, M. M., 847.
Cohen, R., 294, 300, 514, 1005, 1247, 1820, 1823.
Cohen, S. G., 1953.
Cohn, M., 2433.
Colaert, J., 755.
Cole, C. R., 22, 333, 546, 547, 1034, 2073, 2460.
Cole, E. J., 1470.
Cole, H. N., 649.
Collette, T. S., 27.
Collier, H. O. J., 1944.
Collier, T. W., 476.
Collier, W. A., 85, 86, 281, 323, 324, 325, 326, 327, 524, 525.
Collins, A. P., 1364.
Collins, D. C., 1833.
Collins, J. H., 2145.
Collins, M. E., 1309.
Collins, V. P., 34.
Collins-Williams, C., 1767.
Colorado Iris, R., 1007.
Colsky, J., 1207.
Combs, L. W., 1029.
Conant, N. F., 453, 726, 917, 964, 997, 999, 1483, 1785, 1981.
Conde Muñoz, J. M., 1659.
Conejo Mir, J., 1659.
Converse, J. L., 1812.
Conway, H., 62.
Coode, C. D., 1748.
Cook, J. E., 16.
Cook, L. G., 725.
Cooke, W. B., 767, 2003, 2073.
Coolidge, M. H., 848.
Cooper, J. S., 2542b.
Corbelli, G., 2082.
Cordeiro de Azevedo, P., 2056.
Cordy, D. R., 744, 2423.
Cornejom, B., 1040.
Corper, H. J., 2542a.
Corrales Padilla, H., 2467.
Cory, J. C., 1292, 1846, 1847.
Costa, O. G., 918.
Costello, M. J., 405, 619, 623, 1127.
Cottier, H., 2432.
Cotton, B. H., 1520.
Couch, O. A., 1543.
Coudert, J., 1146, 1366, 1379, 1499, 1690, 1725, 2287.
Courdurier, J., 1588.
Courtois, C., 1078, 2158.
Courtois, G., 60, 1851.
Couteau, M., 800, 1048, 1224.
Coutelen, F., 1919, 2209.
Coutts, W. E., 450.
Covert, S. V., 2400.
Cowan, D., 1837, 2087.
Cowper, H. H., 1002.
Cozad, G. C., 303, 2073, 2075.
Craig. G. E., 1109.

Craig, J. M., 1609.
Crawford, O. W., 316.
Creitz, J. R., 1361, 1810, 2414.
Cremer, G., 393, 1123, 1422, 1951.
Crispell, K. R., 1858.
Crispell, L. S., 532.
Cronin, M. T. I., 2372.
Cronk, G. A., 83.
Cross, R. F., 952.
Crossland, P. M., 1933.
Crotty, R. Q., 161.
Crow, K. D., 1236.
Crowl, W. B., 696.
Cruickshank, C. N. D., 1949.
Cruickshank, D. B., 35.
Cruickshank, G., 2258.
Cruickshank, R., 362.
Cruz, R. V., 2558.
Csiky, T., 1728.
Csillag, A., 2051, 2370, 2390.
Csobán, G., 2187.
Cullen, J. H., 2545.
Culp, R. L., 2073, 2085, 2086.
Cummings, J., 923.
Cummins, C. R., 484.
Cunha, J. C., 2568.
Cuny, G., 1585.
Cupp, H. B., 536.
Curry, F. J., 2061.
Curry, J., 1382.
Curtis, A. C., 51, 516, 914, 918, 1160, 1200, 1201, 1208, 1780.
Curtis, D. R., 2429.
Cutter, V. M., 1731.
Cuttle, T. D., 1488.
Černý, E. W., 1519.

Daeschner, C. W., 1100.
Da Fonseca, A., 1664, 2207, 2208.
Daglio, C. A. N., 69, 995, 2160, 2498, 2529.
Damgaard-Mørch, P., 2014.
Daniels, G., 159, 598, 1382.
Das, A. K., 2067.
Da Silva, M. E., 468.
Da Silva, N. N., 432, 745.
Da Silva, W. B., 2567.
David, M., 25.
David de Sanson, R., 1512.
Davies, D. M., 464.
Davies, W. H., Jr., 321.
Dawe, C. J., 2233.
Dawkins, S. M., 2398.
Dawson, C. O., 2276.
Dayalu, T. K., 263.
De Almeida, F. P., 723.
Dean, F. M., 636.
Dean, G., 2456.
De Arěa Leão, A. E., 918.
De Azevedo, P. C., 2557.
Deblock, S., 2177, 2209.
De Bonis, U., 425.
Debré, R., 1352.
de Briceno Maaz, C., 1989.
De Britto, T., 723.
Debry, G., 1585.
Deb Sikdar, B. M., 2067.
De Buen, S., 1222.
Decamp, P. T., 1203.
De Campos, E. P., 1234.
Decarie, R., 2260.
De Carvalho, A., 715, 1255.
De Carvalho, L. P., 1427.
De Carvalho, M. da C. M., 282.
De Castro, J., 2458.
Dechaume, M., 1446, 1447.
Deck, F., 1839.
De Fina, A. F., 2495.
Defoort, R., 1476.
Defrenne, P., 59.
Degand, J., 816.
De Gavaller, B., 1327.
Degnan, E. J., 1743.
Degos, R., 860.
De Graciansky, P., 1188, 1579.
De Jong, A., 1156.
De la Fuente, A. A., 85, 323.
Delamater, E. D., 483.
Delaporte, J., 1579.
De Larramendi, A. E. M., 198.
Delarue, J., 1738.
Delaveau, P., 1448, 1737.
De Ledesma, J. P. R., 270.
Del Giudice, V., 2029.
Del Negro, G., 1234, 2084, 2569.
De Loof, C., 1078.
Delville, J. P., 978.
De Magalhães, O., 2005.
De Maria, A., 1358.
De Matos-Faia, M., 2511.
De Montemayor, L., 1491.
De Muyncke, A., 60.
Denis, J. P., 1173.
Dennis, J. L., 1238.
De Oliveira, H., 1661.
Deoras, S. M., 647.
Depieds, R., 97, 1166, 1549.
Depoux, R., 2080, 2081.
Dereymaeker, A., 1763.
Derriks, R., 1456.
Derzavis, J. L., 615.
D'Eshougues, J. R., 230.
De Silva, R., 2341.
Desmond, M. M., 1056.
Despois, R., 201.
De Somer, P., 1763.
Dessureault, R., 1784.
De Tiege, R., 124.
De Urioste, R., 667.
De Vries, J., 2008.
De Vriese, J., 793.
DeWulf, L., 867.
Dey, N. C., 881, 1095, 2157, 2352.
Dias, V. M., 912.
Diaz, B. E., 2573, 2574.
Di Bella, A., 2377.
Dicke, R. J., 471.
Dickie, H. A., 1538.
Dickson, J. A., 1464.
Dietrichson, E., 936, 1295.
Diller, I. C., 828.
Dilorenzo, J. C., 1341.
Di Menna, M. E., 1473, 1626, 1678, 1991, 2428.
Dingle, J. H., 2073, 2449.
Di Paola, G., 1051.
Dixon, J. L., 68.
Doby-Dubois, M., 1919, 2177, 2209.
Docekal, B., 2305.
Dodge, P. R., 26.
Doepfmer, R., 2385.
Doerner, A. A., 1817, 2531.
Doherty, D. D., 155.
Dolb, A., 2042.
Dolfen, W., 1388.
Domínguez, L., 2127.
Donoho, R. S., 2135.
Donomae, I., 2120.
Dorante, M., 1829.
Dordević, Z., 2055.
Dorph-Petersen, L., 1449.
Dósa, A., 145.
Dostrovsky, A., 1405, 2309.
Doucette, J., 2066.
Dougherty, J. W., 583.
Doupagne, P., 1091, 2158, 2298.
Dowding, E. S., 133, 1629.
Dowe, J. B., 308.
Downing, J. G., 1484, 1942.
Downing, W., 1753.
Doyne, E. E., 226.
Draganos, P. N., 2355.
Drake, C. H., 819.
Dressler, S. H., 2433.
Drieux, H., 2437.
Driver, J. R., 649.
Drouhet, E., 36, 37, 91, 176, 181, 182, 187, 434, 610, 800, 915, 971, 983, 1048, 1343, 1352, 1515, 1594, 1640, 1850, 1854, 1877, 2251, 2374, 2383, 2536.
Drouhet, N., 1288, 1352.
Drummond, M., 2140.
Duarte, E., 973.
Dubois, A., 334, 794, 1283, 1284, 1550, 2445.
Dubrisay, J., 1477.
Duggan, M., 1204.
Dunham, W. B., 52.
Dukes, C. D., 2368.
Dunn, R. C., 1856.
Duperrat, B., 1168, 2453.
Dupont, C. A. B., 1231.
Dupré, A., 365.
Durbin, C. G., 2145.
Durie, E. B., 308, 652, 1679, 1935, 2283.
Durieux, J., 2336.
Duroux, 1335.
Duryea, A. H., 544.
Dutta, D., 1370.
Dutton, L. O., 1773, 1774.
Dvořák, J., 1500.
Dwyer, H. L., 1385.
Dykes, J., 297.
Dyson, J. E., 1264, 1485, 1540, 1842.

Earle, A. M., 1286.
Earle, K., 1478.
Early, L., 811.
Eberhartinger, C., 1745.
Ebert, R., 554.
Eby, C. H., 1869.
Edelson, E., 876.
Edidin, B. D., 1527.
Edwards, J. M. B., 2398.
Edwards, P. Q., 1835, 1839, 1840.
Egbert, E., 1832.
Egeberg, R. O., 733, 734, 1822.
Eger, W., 1195.
Eggert, M. J., 246.
Ehrlich, J., 452.
Ehrlich, R., 2234.

Ehrmann, G., 817, 1373, 1646, 1702.
Eiken, M., 1172.
Eiman, J. W., 574.
Einbinder, J. M., 748.
Einstein, H. E., 2422.
Eisen, D., 1217.
Eisman, P. C., 357, 1849.
Elliot, G. B., 1204.
Elliott, J. F., 1818.
Ellis, F. F., 315.
Elton, N. W., 277.
Ely, A. F., 1822.
Emde, K. H., 584.
Emdin, W., 1052.
Emmett, J., 1002.
Emmons, C. W., 276, 559, 792, 807, 918, 1041, 1141, 1250, 1294, 1432, 1534, 1803, 1843, 1917, 2053, 2073, 2097, 2153, 2238.
Emmons, L. L., 2418.
Ende, N., 75.
Enerson, D. M., 1014.
Eng, N.-I. T., 1839, 1855, 2153.
Engel, S. L., 904.
Englander, G. S., 797.
Englert, H. K., 2046.
English, M. P., 1672, 1688, 2296, 2322.
Enjalbert, L., 2359.
Erbakan, N., 1924.
Ercoli, N., 2225.
Erikson, D., 212, 1467, 1740.
Esandi, F., 1866.
Esquirol, 2026.
Essigke, G., 2111.
Esteves, J., 1662, 1664, 1707.
Etter, K. G., 2031.
Eto, K., 1898.
Evans, E. E., 268, 749, 1218, 1264, 1268, 1485, 1842.
Evans, P. R., 1278.
Evans, R. E., 1031.
Evans, T., 1474.
Evans, W. E. D., 1305.
Eveleth, D. F., 1530.
Everall, J., 1383.
Everding, C. J., 684.
Eyckmans, R., 2407, 2516c.
Eynon, H. K., 974.

Fabian, G., 1450.
Fabricant, N. D., 1757.
Fagan, R., 1987.
Fahlberg, W. J., 410, 454, 555, 1056, 1100, 2368.
Fain, A., 2464.
Falcone, G., 2117.
Falconer, M. A., 1443.
Falkinburg, L. W., 66.
Falkmer, S., 1336.
Farina, R., 288, 2354.
Farrell, A., 1504.
Farrell, R. L., 22, 546, 547, 2073.
Farris, G., 1509.
Fasal, P., 918.
Fauconnier, J., 1896.
Faure, J., 388.
Faurel, L., 2033.
Faust, J. A., 2226.
Fava, A., 19.
Favo Netto, C., 2569.
Fazakas, A., 663, 1733.
Fazakas, S., 664.
Fazio, M., 1304.
Featherston, W. M., 421.
Federspiel, C. F., 1262.
Fegeler, F., 1665, 2183, 2294.
Feinberg, A. R., 1777.
Feinberg, S. M., 1777.
Feller, A. E., 2073, 2449.
Fellman, H., 1135.
Feo, M., 717, 1513.
Ferguson, B. A., 476.
Ferguson, G. B., 1993.
Ferguson, L. C., 22.
Fernandes, J. de C., 2231.
Fernandez Castro, J., 1766.
Ferrada Urzua, L., 73, 106.
Ferraris, F., 825.
Ferraris, L. V., 54.
Ferreira, A. dos. S., 1282.
Fetter, B. F., 999.
Fey, H., 1468.
Ffrench, G., 1043.
Fields, M., 1529.
Fiese, M. J., 743, 1521, 1522.
Figge, F. H., 1392, 1393.
Figge, F. H. J., 592, 593, 594.
Figueiredo, M. de A., 1039.
Finch, P. G., 457.
Fingerland, A., 1500.
Fink, J. C., 258.
Finlayson, M. H., 1052.
Fischer, E., 397, 895, 913, 1967.
Fischer, G. W., 1111, 1338, 2128.
Fischer, J. B., 131, 916, 1217, 1229, 1506, 1541, 2459.
Fish, N. A., 2459.
Fisher, A. M., 2018.
Fishman, I. M., 618.
Fissel, G. E., 2454.
Fitzgerald, R. J., 1161.
Fitzpatrick, M. J., 1537.
Fitzpatrick, T. J., 313.
Flanagan, J. F., 1628.
Fleger, J., 167.
Fleming, D. S., 1562.
Fleury, C., 690, 801, 803, 829.
Floch, H., 110, 322, 786, 1320, 1452, 1510, 1551, 2076, 2452, 2528, 2550.
Flores Del Fierro, C. H., 1936.
Flores-Ramirez, M., 2505a.
Florian, E., 1167, 1789.
Florsheim, W., 2232.
Foerster, H. C., 1222.
Fois, A., 781, 928.
Fok, L. G., 1855.
Folan, D. W., 1484.
Földvari, F., 1167, 1789.
Foley, F. E., 929.
Foley, G. E., 1802, 1882, 1884, 2124.
Forbes, G. B., 1027.
Ford, E. J. H., 2329.
Forgacs, J., 1192, 1193, 1194, 2021.
Forni, P. V., 1062, 1349, 1350, 2115.
Forsee, J. H., 1242.
Forsey, R. R., 488.
Forster, E., 1457.
Forster, J., 2331.
Forster, R. A., 2237.
Fosnaugh, C. J., 2219.
Fostvedt, G. A., 2418.
Fountaine, J., 292.
Fox, H., 780.
Fox, J. L., 1612.
Fox, J. R., 929.
Fox, P. B., 883.
Foxworthy, D. T., 1212.
Frágner, P., 2205, 2222, 2404.
Frain-Bell, W., 1417.
Franchi-Pade, J., 2479b.
Francino, J., 2493a.
Frank, E. F., 1136.
Frank, E. R., 1189.
Frank, H., 1668.
Frank, S. B., 918.
Franks, A. G., 422, 918, 1063, 1386, 1410, 2312, 2321.
Franz, A., 962.
Franzen, J., 1019.
Fraser, W. N. C., 1384.
Freedman, M. L., 2318.
Freeman, E. S., 549.
Freeman, G. G., 1433.
French, A. J., 286.
French, E. E., 532.
Fréour, P., 330.
Frey, D. M., 1679, 2283.
Friderich, H., 872.
Friedhoff, F. W., 1088.
Friedl, J. L., 1965.
Friedman, I. H., 1444.
Friedman, J., 49, 2381.
Friedman, L., 508, 964, 1814, 2062, 2063, 2416.
Fries, N., 2284.
Friou, G. J., 556.
Frisk, A., 352, 1290, 1539.
Fritz, J. M., 1519.
Fuentes, C. A., 359, 1097, 1106, 2152, 2282, 2340.
Fujii, T., 2181.
Fukazawa, Y., 2107, 2108.
Fuller, C. J., 253.
Furcolow, M. L., 76, 303, 304, 531, 545, 765, 788, 1261, 1262, 1270, 1271, 1482, 1542, 1552, 1562, 1827, 1834, 1867, 2035, 2073, 2442, 2449, 2537.
Furnari, D., 1667.
Furtado, T. A., 283, 984.

Gaballo, S., 425.
Gaches, J., 1453.
Gade, M., 2215.
Gadrat, J., 365.
Gale, D., 1739.
Gale, G. R., 875, 965, 966, 1595.
Galindo, D. L., 977.
Gallo, G. G., 1635.
Gálvez Brandon, J., 2547.
Gandy, D. G., 1769.
Ganzin, M., 2081.
Garb, J., 2417.
García-Cabral, R. V., 195.
García Cortes, A., 56.
García-Zorrón, N., 193.
Gardenchi, G., 1113.
Garlopeau, F., 2010.
Garnier, G., 1572, 2142.
Garrett, H. D., 1971.
Garrod, L. P., 11, 14.

Garvin, W. H., 724.
Garzon, R., 54.
Gasner, W. G., 623, 1127.
Gass, R. S., 1017, 2457.
Gatti, F., 878, 1922, 1923.
Gaud, J., 388.
Gaudefroy, M., 1573.
Gaumond, É., 1205.
Gauthier, C., 799, 1351, 1881.
Gauthier, R., 1571.
Gauvreau, L., 1084.
Gay Prieto, J., 624, 2317.
Geaney, B., 2431.
Gebhardt, L. P., 2118.
Geftic, S., 1849.
Geftic, S. G., 357.
Geiser, J. D., 1937.
Geldmacher-Mallinckrodt, M., 2188.
Gellhorn, A., 34.
Gelli, G., 831, 1596, 1597.
Gentles, J. C., 2197, 2198, 2276, 2301, 2303, 2335.
Georg, L. K., 170, 171, 409, 845, 908, 918, 1115, 1149, 1425, 1946, 1954, 1961, 2171, 2178, 2179, 2218, 2219, 2270, 2292, 2328, 2332, 2333, 2334, 2339.
Gephardt, M. C., 1006, 1914.
Geppert, L. J., 1075.
Gerber, N. N., 2228.
Gerloczy, F., 2389.
Gerloff, R. K., 63.
Geser, A. G., 1840.
Gessler, U., 1589.
Getz, K., 1644.
Getz, M. E., 874.
Ghislain, E., 2196.
Ghosh, S., 1694.
Giampiccolo, P., 458.
Gierløff, B. C. H., 2172.
Gifford, M. A., 514.
Gilmer, W. S., 2365, 2532.
Gilmour, I. E., 676.
Ginesta, J. R., 985.
Giolitti, G., 459, 460.
Giordani, G., 1501.
Giroux, M., 1784.
Gitter, M., 2338.
Giuliani, L., 2479e.
Giusiano, L., 1759.
Gladney, J. H., 1816.
Glaesmer-Zaff, M., 668.
Glahn, M., 1458.
Gleiser, C. A., 577.
Gleiss, J., 813.
Glosson, J. R., 188.
Godinger, D., 2041.
Gohar, N., 918.
Gold, L., 226.
Golden, M. J., 933.
Goldman, L., 2275, 2364.
Goldring, D., 2262.
Goldstein, N., 877.
Gombert, H. J., 231.
Gómez López, L., 1829.
Gonçalves, A. P., 609, 864, 1132, 1427, 2577, 2578.
González Ochoa, A., 467, 669, 671, 672, 918, 926, 942, 1007, 1008, 1487, 2020, 2034, 2127, 2468, 2478, 2500, 2515a.
González Ramos, M., 808.
Good, C. A., 2264.
Goodman, H. L., 1791.
Goodman, J. J., 1460.
Goodman, J. R., 292.
Gordeeff, A., 711.
Gordon, K. R., 61.
Gordon, L. E., 1248, 1523, 1814.
Gordon, M. A., 96, 157, 400, 427, 536, 597, 918, 2073, 2348.
Gorrill, R. H., 1740.
Gosling, H. R., 2532.
Gotham, J. E., 1973.
Goto, M., 429, 430.
Gottlieb, D., 1430.
Götz, H., 413, 415, 586, 665, 866, 884, 1328, 1369, 2466.
Goudaert, M., 1446, 1447.
Goudal, H., 2504a.
Goudot, B., 1168.
Gouin de Roumilly, P., 1579.
Gould, W., 2300.
Gould, W. L., 2308.
Graham, C. S., 308.
Graham, J. H., 2408.
Gram, H. G., 2114.
Grandbois, J., 1084.
Granelli, U., 2129.
Granits, J., 1643, 1702.
Granitz, J., 886.
Granotier, 1335.
Grant, L. S., 61.
Grant, V. Q., 84, 96.
Grant, W. G., 2544.
Grasset, E., 803.
Grasset, J., 1571.
Gray, J. D., 1604, 2325.
Gray, M., 611.
Grayston, J. T., 304, 531, 1029, 1261, 1834, 1844, 2073.
Gready, T. G., 2394.
Greene, C. H., 2088.
Greene, L. W., 1741.
Greff, C., 1457.
Gregerson, A., 1122.
Grégoire, P. E., 689.
Gregory, F. J., 704.
Grein, A., 1736.
Gridley, M. F., 445.
Grieve, W. S. M., 519.
Grigoraki, L., 2163, 2164.
Grill, R., 1583.
Grimmer, H., 387, 1112, 1434, 2193, 2278, 2291.
Grin, E. I., 2492, 2496.
Grosgogeat, Y., 2504a.
Grottenmüller, K., 1389.
Grove, F. E., 858.
Groves, F., 1929.
Gruber, M. D., 213, 463.
Grumbach, R., 1352.
Grün, L., 813.
Grunberg, E., 371, 981, 1677.
Grupper, C., 1188.
Guerol, H. E., 1231.
Guest, C. M., 811.
Guex-Holzer, S., 976.
Guicherit, I. D., 2077.
Guiducci, A., 918.
Guilhon, J., 1711, 2174, 2336, 2499b.
Guimarães, F. N., 55, 918.
Guimarães, N., 468.
Guimil, A., 985.
Guin, J. J., 1287.
Guiot, G., 1737.
Gumpesberger, G., 1691.
Gunderson, G. A., 2480b.
Gunson, H. H., 2149.
Guntheroth, W. G., 76.
Gurri, J., 194, 1038.
Gustus, E. L., 833.
Guthrie, R. K., 2368.
Gutierrez, J. E., 1936.
Gutierrez, P., 392.
Guttmacher, A. F., 1611.
Guyotjeannin, C., 125, 1130.
Guzman, M. G., 1329.

Haas, R., 1567.
Habermann, R. T., 21, 792, 1041, 1251, 1271, 1553.
Habel, K., 2073.
Habib, R., 1352.
Hackett, A. H., 1384.
Hackney, A. L., 527.
Haddad, N., 711.
Hadden, J. C., 814.
Hadida, E., 988.
Hadlow, W. J., 1948.
Hage, J. T., 1009.
Hahn, H., 640.
Hahn, W., 1317.
Hajós, K., 957.
Hajsig, M., 2150.
Hakendorf, A. J., 2295.
Haid, C., 518, 2015, 2216, 2313, 2351.
Halde, C., 959, 1037.
Haley, L. D., 3, 530, 2109.
Hall, B. D., 499.
Hall, C., 2073.
Hall, F. R., 2299.
Hall, J. A., 2121.
Hall, R. H., 267.
Hall, W. H., 528.
Halliday, W. J., 1787.
Halloran, P. O'C., 2241.
Halperin, A., 1555.
Halpert, B., 742.
Hamilton, A. Y., 2227, 2319.
Hamilton, O. A., 412, 1387.
Hamlin, J., 1858.
Hammer, D., 2046.
Hampson, C. R., 1524.
Hamuy, J., 2533.
Hand, E. A., 1425, 2292.
Hanf, G., 1461.
Hanf, U., 673, 1461, 2019.
Hänig, E., 885.
Hanlon, T. J., 1006, 1914.
Hansell, J., 1696.
Hansen, A. E., 1238.
Hansen, P., 2200, 2494.
Hardy, A. V., 549, 571.
Hare, P. J., 373, 589.
Harlacher, A., 675.
Härö, S., 130.
Harrell, E. R., 51, 516, 914, 1160, 1208, 1780.
Harris, H. W., 1361.
Harris, J. S., 1483, 1485, 1918.
Harris, R., 2388.
Harris, T. L., 419.
Harrison, G. K., 35.
Harter, J. S., 1324.

Harvey, J. C., 2018.
Haschek, H., 654.
Haseeb, M. A., 2349.
Hasenclever, H. F., 2402.
Haskell, B. F., 314.
Haskin, A. H., 876.
Hata, J., 887.
Hattori, Z., 1576.
Haugen, R. K., 1797, 1798.
Haukohl, R. S., 1359.
Hauser, W., 1355.
Haven, F., 1285.
Havyatt, M., 160.
Hawks, G. H., 273, 1712.
Hawley, C., 2362.
Hayes, C. V., 2263.
Hayes, F. A., 1947.
Hazen, E. L., 24, 209, 661, 773, 1140, 1454, 1841, 2088, 2089, 2253, 2545.
Headley, W. H., 750.
Heath, M. K., 1492.
Hedenius, P., 1290, 1539.
Heeren, R., 2073.
Heeren, R. H., 1834.
Heid, G. J., 1273.
Heidsieck, C., 216.
Heiligman, E. M., 419.
Heilman, F. R., 50.
Heinemann, B., 694.
Heinrich, S., 673.
Helfer, L. M., 1504.
Heller, A., 944.
Helmbright, A. L., 77, 2073.
Helms, P., 2122, 2387.
Hengel, R., 946.
Hengerer, A. D., 2400.
Henington, V. M., 1435, 1897.
Hennemann, H. H., 329, 775.
Hennigar, G. R., 1272.
Henricke, S. G., 868.
Henriksen, E., 1307.
Henriksen, S. D., 2194.
Henrot, L., 1636.
Henry, B. S., 2415.
Henry, J. F., 2358.
Henry, R. C., 1269.
Hensler, N. M., 2526.
Heptinstall, R. H., 1740.
Herbeuval, H., 1585.
Herbeuval, R., 1585.
Herin, V., 2464.
Hernandez, D. U., 2148.
Hernández, E., 1007.
Herrera, J. M., 2058.
Herrero, A., 1859.
Herrero, F. J., 2507.
Herring, A. S., 1193, 1194, 2021.
Hertz, J., 1171.
Hesseltine, H. C., 1587.
Hevia, H., 681.
Hewell, B. A., 774, 1261.
Hexter, G. F., 2324.
Heymer, T., 2385.
Hibino, S., 540.
Hickey, B. B., 2504d.
Hickey, R. C., 1165.
Hicks, P. K., 1929.
Hidalgo de Pablo-Blanco, M., 1742.
Hiddlestone, H. J. H., 692.
Higdon, R. S., 2409.
Hill, B. H. R., 725.
Hill, D. W., 2118.
Hill, G. B., 791.
Hill, K. R., 61.
Hillegas, A. B., 452, 2073.
Hilliers, A. A., 525.
Hilscher, W. M., 1494.
Hilsont, P., 1570.
Hinds, E. C., 1743.
Hinshaw, W. R., 455.
Hinson, K. F. W., 478.
Hinton, A., 545, 788, 2073, 2075, 2090, 2091, 2539.
Hirai, T., 204.
Hirschmann, V. R., 1240.
Hitch, J. M., 420.
Hobson, J. L., 1496.
Hodges, E. P., 791.
Hodges, F. A., 2145.
Hodgson, C. H., 1020.
Hoekelman, R. A., 134.
Hofer, J., 982.
Hoffer, O., 1337.
Hoffert, W. R., 549.
Hoffman, C. L., 1817.
Hoffman, H. S., 1184.
Hoffmeister, W., 4.
Hofmeyr, J., 1185.
Höhle, P., 625.
Hoigné, R., 2432.
Hojman, D., 2044.
Hok, K. A., 2319.
Holding, B. F., 1269.
Hollifield, G., 1858.
Holm, P., 10, 1468.
Holmes, J. G., 2198, 2301.
Holmes, S. J., 273.
Holsinger, R. E., 1394.
Holten, C., 1332.
Holtermann, H., 888.
Holzworth, Jean, 47, 500.
Homma, A., 633.
Honorato-Chaparro, A., 301.
Hood, S. I., 1040.
Hooft, C., 2048.
Hoogendijk, J. L., 2074, 2098.
Hoogendijk-van Dort, T. E., 2074, 2098.
Hooper, I. R., 694.
Hoops, E. H., 1692.
Hopkins, J. E., 1781.
Hopkins, J. E. T., 262.
Hopkins, J. G., 412, 1387.
Hopkins, W. A., 2050.
Hoppeler, A., 1352.
Hopper, M. E., 374, 389, 2279.
Hopps, H. C., 1914.
Horner, S., 1940.
Horr, W. H., 2073.
Horsfall, W. R., 2431.
Horta, J. da S., 783.
Horton-Smith, C., 116.
Hoshishima, K., 2543a, 2543b.
Hosoya, S., 203, 1436.
Hosp, L., 1219.
Hottinger, A., 2391.
Hottle, G. A., 2073.
Houdart, R., 971.
Howell, A., 469, 1161, 2007, 2255.
Howles, J. K., 705, 724.
Hu, F., 2516a.
Huang, W.-Y., 922.
Hubble, R. H., 2054.
Huber, K., 693.
Huber, M., 1559, 1560, 1845.
Hübschmann, K., 2404.
Hueck, O., 675.
Huffines, T. R., 963.
Hugenholtz, P. G., 2421.
Hughes, F., 537.
Hughes, F. A., 929.
Hughes, J. W., 379.
Hultin, M., 1577.
Humphreys, E. H., 1014.
Humphreys, R. J., 709.
Hungria, J. S., 2571.
Hunter, M. C., 871.
Hunter, R. A., 1179.
Huntington, P. W., 747.
Huppert, M., 1874, 1875, 1876, 1950, 2252.
Hurd, R. C., 819, 1968.
Hutcheson, H. H., 2457.
Hutchings, M. W., 1227.
Huxley, M. J., 1968, 2176.
Hyde, H. A., 1770.
Hyde, L., 1241.

Iaricci, V., 741, 994.
Ibach, M. J., 765, 1270.
Ibarra, L. M., 2131.
Ida, T., 887.
Ikeda, Y., 204.
Ilukewitsch, A., 2002.
Imamura, K. S., 1436.
Indoh, H., 481.
Ingalls, E. G., 217.
Inglis, J. A., 307.
Ingram, J. T., 2297.
Ink, J., 741, 994.
Inman, P., 1124.
Innes, J. R. M., 45.
Inza, R., 2518.
Ironson, E. J., 704.
Isa, J. M., 1751.
Israel, H., 517.
Ito, C., 2543b.
Ito, K., 626–631, 1952.
Ivanoff, T., 934.
Iverson, L., 309.
Iyer, S., 26.
Izarn, P., 581.

Jablon, S., 1837, 2087.
Jackson, D., 1024.
Jackson, F. I., 88.
Jackson, I. J., 1478.
Jackson, J. L., 2517a.
Jackson, J. R., 2240.
Jackson, R., 488.
Jacobsen, J., 1502.
Jacobson, F. W., 1709.
Jadassohn, W., 113.
Jaeger, R. F., 43.
Jakob, A., 784.
Jakubowicz, H., 1611.
Jalandoni, R., 2401.
Jamar, J., 1225.
Jammet, M. L., 1313.
Janiak, E., 1381, 1649.
Janiakowa, E., 1680, 1681.
Janke, D., 9, 126, 151, 337, 431, 1119, 1151, 1590, 1591, 2151, 2191.
Janke, R. G., 129, 448, 824, 886, 1064, 2190.
Jansen, B. C., 2266.

Janssens, P. G., 334, 1284, 1383.
Jaqueti del Pozo, G., 624, 2317.
Jarniou, 1335.
Jay, D. H., 744.
Jayaram, S. S., 263.
Jean, R., 1018, 1334.
Jelliffe, D. B., 1709.
Jellison, W. L., 2071.
Jennison, R. F., 2399.
Jervis, O., 719.
Jillson, O. F., 134, 532, 2516b.
Jiménez Díaz, J., 810.
Jirousek, L., 1889.
Jirsák, J., 1889.
Joe, L. K., 1839, 1855, 2153, 2556.
John, S., 812.
Johnsen, J., 568, 569, 570.
Johnson, C. G., 1586.
Johnson, C. M. C., 2008.
Johnson, C. W., 271.
Johnson, E. W., 2265.
Johnson, J. E., 320, 1832.
Johnson, S. A. M., 1329.
Johnstone, K. I., 2285.
Jones, C. M., 1604.
Jones, D. L., 2054.
Jones, D. O., 22.
Jones, E. E., 696.
Jones, G. E. S., 2135.
Jones, M. M., 564.
Jones, R. W., 863, 1394.
Jones, T. C., 1159.
Jonsen, J., 1046, 1600, 1601, 1602.
Jonsen, T., 820.
Jordan, E. M., 46.
Jordan, F. T. W., 837, 1196, 2022.
Joress, M. H., 293, 2100.
Jorke, D., 1581.
Joseph, H. L., 2216.
Josserand, A., 1330.
Joulia, P., 557, 1486.
Joyce, J. C., 2032.
Joyner, J. W., 271.
Juarez, W. J., 2070.
Jufe, R., 2534.
Juhász, P., 2187.
Jules, L. H., 2226.
Jung, H.-D., 632, 642, 856, 889, 1371, 1698.

Kabler, P., 2003.
Kabler, P. W., 767, 2073.
Kada, T., 1963.
Kadas, L., 1053.
Kaden, R., 607, 659, 890, 891, 1399, 1976, 1998, 2235.
Kaess, K. V., 2353.
Kaffka, A., 1887.
Kaivers, R., 1476.
Kaizaki, I., 1310.
Kakoti, L. M., 2157, 2352.
Kalkoff, K. W., 9, 413.
Kalliomäki, L., 892.
Kallner, G., 1405.
Kamatsu, N., 1436.
Kamiénski, J., 2302.
Kanayama, S., 1431.
Kane, G. J., 1753.
Kao, C. J., 2540.
Kaplan, M. A., 694, 1772.
Kaplan, W., 2219, 2333, 2334.
Kapustin, V. F., 2244.
Karayeva, Z. M., 900.
Kärcher, K. H., 1323, 1873.
Kargl, O. L., 1463.
Karnauchow, P. N., 2240.
Karrer, H. E., 298, 726.
Kasliwal, R. M., 821.
Kass, I., 2433.
Kastrup, H., 479.
Katayama, R., 540.
Kaufman, S. F., 2099.
Kaufmann, W., 33.
Kaur Dhariwal, G., 782.
Kawaguchi, T., 153.
Kawakita, S., 2108.
Kawamori, Y., 2120.
Kay, R. G., 1395.
Kaye, J., 2455.
Keddie, F., 2324.
Keeney, E. L., 5, 958, 1139.
Keil, C., 943.
Keith, H. M., 2480c.
Kelcek, L. C., 1870.
Kelly, F., 218.
Kennedy, C. B., 724, 1435, 1897.
Kennedy, P., 89.
Kerbrat, G., 1177, 1190.
Kernan, P., 1837, 2087.
Kessler, A., 477, 697.
Kessler, C. R., 1861.
Kessler, P. N., 763.
Kesten, B. M., 1693, 2311.
Keys, R. J., 549.
Khalfat, A., 1744.
Kiaer, J. H., 1835.
Kier, J. H., 1022.
Kiesselbach, M. R., 412, 1387.
Kihlberg, G., 2284.
Kile, R. L., 572.
Kimball, A., 1189.
Kimmig, J., 413, 1086, 2476.
King, A. B., 27.
King, W. C., 893.
Kingston, D. T., 2418.
Kirby, W. M. M., 1028.
Kirk, R., 2247.
Kirksey, O. T., 274.
Kirschstein, R. L., 2025.
Kisch, B., 1716.
Kiseleva, M. L., 840.
Kissmeyer-Nielsen, F., 1907.
Kitamura, T., 1943.
Kjølbye, E. H., 1840.
Klapheke, M. A., 1324.
Klärner, C., 1325.
Kleine-Natrop, H.-E., 1926.
Klemptner, H. E., 489.
Kletter, G., 281.
Kliewe, H., 982.
Kligman, A. M., 6, 98, 205, 574, 611, 1099, 1727, 2484a, 2484b.
Klose, F., 353.
Kloss, K., 2479d.
Knake, H. J., 2011.
Kneafsey, D., 2032.
Knight, I. C. S., 941.
Knight, V. H., 2366.
Knoll, K. H., 1630.
Knoth, W., 1630.
Knudsen, M. P., 452.
Kobayashi, G. S., 1815.
Koelle, W. A., 2136.
Koepsell, H. J., 452.
Kogoj, F., 1401.
Kohayakawa, G., 2543a, 2543b.
Kohberger, D. L., 452.
Köhlmeier, W., 756, 823.
Kokuma, S., 2543a.
Kolb, E., 1158, 2525.
Köle, W., 2479a.
Komatsu, N., 203.
Kominami, K., 1708.
Komins, C., 2455.
Komuro, S., 1396.
Kondo, Y., 2543b.
Königsbauer, H., 331, 759, 761, 1148, 1437, 1804.
Konopka, E., 1849.
Konrad, J., 1322.
Koons, R. C., 218, 435, 1133.
Koroleva, V. P., 1639, 2244.
Körtge, P., 244.
Korth, Z. N., 1973.
Kostić, P., 1306.
Kotcher, E., 82.
Koulumies, R., 1908.
Koutrolikos, D., 712.
Krafchuk, J. D., 2487.
Kraft, B., 2480c.
Kral, F., 1651.
Krasner, R. I., 2375.
Krastelevskaya, S. A., 367.
Kraus, R., 1178.
Krause, S., 1630.
Krauskopf, J., 2222.
Kreitner, H., 756.
Kretzschmar, C., 1356.
Krisch, E., 784.
Krüger, H., 585.
Krumenacher, F. P., 558.
Kuentz, J., 1754.
Kugel, E., 675.
Kuhlmann, H., 1952.
Kuhn, B. H., 2039, 2214, 2327.
Kuhrt, P., 1195.
Kull, F. C., 451.
Kunkel, W. M., 967.
Kuprowski, M., 2139.
Kuri, J., 1478.
Kuroda, P. K., 628.
Kuroda, T., 630, 1397, 1398.
Kurogochi, Y., 1943.
Kurrein, F., 1357.
Kurung, J., 78.
Kurung, J. M., 311, 769.
Kurzon, A. M., 563.
Kushner, D. S., 1489, 1527.
Kusunoki, N., 2543a.
Kusunoki, S., 1598, 1599.
Kutscher, A. H., 215, 220, 1065, 1892.
Kuwahara, R., 2543a.
Kvashnina, E. J., 2244.
Kvisselgaard, N., 328.
Kyle, J. W., 1496.

Labéguerie, M., 243, 1061.
Labie, C., 2437.
Labiner, G. W., 185.
Labzoffsky, N. A., 1506, 1541.
Lacaz, C. da S., 7, 433, 698, 716, 986, 2060, 2084, 2156, 2231, 2472, 2505b, 2509c, 2560, 2572, 2579, 2582.
Lacaz, C. L., 2558.

Lack, A. R., 733.
Lachance, R., 1603.
Lacombe, E., 2509a.
Ladjimi, R., 1744.
Lahey, M. E., 1824a.
Lallemand, M., 1759.
Laluque, P., 2080.
Lamb, J. H., 218, 435, 447, 620, 859, 1133, 1929.
Lamb, L. E., 2542c.
Lamy, M., 1313.
Lanata, C. A., 119, 275.
Landis, F. B., 701.
Lane, C. W., 161.
Lane, S. L., 215, 220.
Lang, J., 418.
Lang, W. R., 2396.
Lange, J., 947.
Lange-Brock, T., 2112.
Langer, E., 1399.
Langer, H., 1932.
Langhof, H., 2310.
Langmuir, A. D., 2073, 2449.
Lanterno, L., 2033.
Lapidus, M., 1656.
Lapidus, S., 1656.
Lapis, K., 2360, 2510.
Larbiner, G. W., 185.
Lares Campos, C., 717.
Larkin, J. C., 1438.
Larroche, J. C., 2137.
Larsh, H. W., 21, 77, 545, 765, 1262, 1270, 1552, 2073, 2075, 2090, 2091, 2442, 2449.
Larson, R., 512.
Lascano, E. F., 1866.
La Touche, C. J., 172, 604, 2162, 2169, 2170, 2285, 2297.
Latte, B., 1400.
Lautié, R., 686.
Lauze, S., 497, 2260.
Lavalle, P., 1163.
Lavertine, J. D. O'D., 1556.
Lavier, G., 706.
Lawonn, H., 674.
Layton, J. M., 490.
Lazar, M. P., 612.
Lazaro, J., 758, 1318.
Lazarus, A. S., 1828.
Le Beau, J., 1453, 1454.
Le Blond, W., 108.
Le Brun, H., 676.
Lechevalier, H., 1147.
Leclercq, R., 1579.
Le Coulant, P., 557, 1486.
Leduc, A., 656, 1206.
Lee, J. R., 1028.
Leeb, A. J., 738.
Lefrou, G., 178.
Le Gal, Y., 1457.
Legler, F., 673.
Lehan, P. H., 2442.
Leiby, G. M., 733.
Leigh, R., 1557.
Leinbrock, A., 2212.
Lemaire, 1335.
Lemoine, J. M., 1477.
Le Nouène, 2026.
Leonard, L., 1105, 1673, 1674.
L'Épée, 557.
Lepercq, G., 1402.
Lepow, H., 2430.
Leppelmann, E., 813.
Lerner, A., 2044.
Levaditi, J.-C., 1851.
Levan, N. E., 989, 1000, 1249, 2069, 2422.
Levene, M., 1794.
Levi, Paola, 100.
Levin, E. J., 2138.
Levin, W. C., 1832.
Levine, S., 1565.
Levitas, J. R., 707.
Levitt, H., 162, 419, 595.
Levy, E. D. P., 259.
Levy, L. J., 1819.
Lévy-Lebhar, G., 1403, 1697, 2273, 2483.
Lévy-Lebhar, J.-P., 1403, 2273, 2483.
Lewis, F. S., 205, 1727.
Lewis, G. M., 374, 389, 583, 918, 1121, 2279.
Lewis, S., 1065, 1892.
Lexow, P., 2420.
Libby, R. L., 1529.
Liberman, M. J., 920.
Liberoff, M., 2479b.
Librach, I. M., 2356.
Lichtensteiger, A., 1901.
Licitis, R., 472.
Licks, F. C., 1671, 2290.
Liebig, C. S., 269.
Liegeois, A., 755.
Lie-Kian-Joe, 1855.
Lienthal, B., 2388.
Lightwardt, H. E., 492.
Lima, A. O., 254, 429, 430.
Lima, L. P. de C., 560.
Limbos, P., 60.
Lindeboom, G. A., 2074, 2098.
Lindemayr, W., 579, 1404.
Linden, I. H., 980.
Line, F. G., 1220.
Linell, F., 496.
Lingamfelter, C. S., 412, 857, 1387.
Linhartová, A., 1799.
Linke, A., 946.
Linz, R., 689.
Lipscomb, C. P., 1819.
Litt, J. Z., 2204, 2280, 2307.
Little, G. N., 24, 661, 1841, 2089.
Littleton, B. J., 660.
Littman, M. L., 1790, 1966, 2092.
Liu, C. L., 1978.
Liu, C. T., 1221.
Livingood, C. S., 614, 893.
Llosa, J. B., 2534.
Llywelyn-Jones, J. D., 2399.
Lobo, J., 1995.
Locke, R. K., 1921.
Locket, S., 519.
Loefer, J. B., 207.
Loewenthal, K., 380.
Lofgren, R. C., 591.
Löhlein, W., 358.
Lohrman, R., 863, 1394.
Lomasney, T. L., 1488.
Lombard, C., 1252.
Londero, A. T., 2575.
London, I. D., 2038.
Long, L. M., 1066.
Long, P. H., 13, 261.
Long, P. L., 116.
Longobardi, L., 2585.
Longueville, R., 1426.
Loosli, C. G., 1029, 1535, 2073.
Lopez Fernandes, J. R., 502.
Lopez, R. A., 1925.
Lorenz, 221.
Losli, E. J., 39.
Lövei, E., 1214, 1728.
Lowe, E. P., 999.
Lowry, C. C., 929.
Lubarsky, R., 1003, 1525.
Lubinsky, G., 1920.
Lubowe, I. I., 852.
Lucasse, C., 931.
Luddecke, H. F., 1783.
Ludwig, J. S., 613.
Ludwig, T. G., 2009.
Luger, A., 1404, 2190.
Luisi, A., 2084.
Lukeman, J. M., 1075.
Lupton, C., 1444.
Lurie, H. I., 1154, 1945, 2272, 2318, 2455.
Luteraan, P.-J., 125, 1130.
Lutz, A., 2130.
Lutz, W., 2165, 2465.
Lux, J. J., 1265, 1860.
Lyck, 2213.
Lyle, J. S., 2516b.
Lyons, R. E., 614, 615, 1363.

Maas, L. C., 2546.
Maberti, S., 2506a.
MacCarthy, J., 1462.
Macchi, A., 2044.
MacCurdy, J. M., 320,
MacFarlane, R. G., 1050.
Machado, J., 282.
Macinnis, F. E., 2101.
Mack, J. K., 768.
MacKenna, R. M. B., 1695, 1940.
Mackinnon, J. E., 93, 94, 193, 194, 301, 440, 714, 1076, 1746, 1911, 2386, 2506b.
Mackintosh, J. W., 1604.
MacMillan, H., 1779.
Maconi, G., 678.
Macotela, E., 2020, 2127.
MacPherson, D. A., 1874.
Maddy, K. T., 1010, 1011, 2068.
Maeda, K., 206.
Maeda, S., 627.
Maffei, W. E., 2571.
Magaldi, C., 2568.
Magalhães, O., 2580.
Magara, M., 827, 1067.
Maghenzani, P., 2115.
Magis, P., 931.
Magni, G. E., 493.
Magnin, P. H., 1931, 2488.
Magnusson, B., 496.
Magriñat, G., 81.
Mahassen, M., 1606.
Mahlandt, B. G., 1194, 2021.
Mahoudeau, D., 1477.
Maia, H. da S., 1755.
Maier, C., 1901.
Mairlot, F., 978.
Majewski, C., 617, 1381, 1649, 1680, 1681.
Makey, A. R., 1227.
Malfatti, M. G., 95, 1514, 1706, 1909.
Mali, J. W. H., 2173.

Mallinckroft-Haupt, A. S., 894, 2188.
Malone, J. T., 173.
Maloney, P. J., 67.
Manciaux, M., 1585.
Mandoul, R., 2033.
Manganiello, L. O. J., 38, 752.
Mankiewicz, E., 1277, 1871.
Mankowski, Z., 341, 802.
Mankowski, Z. T., 660, 735, 828, 932, 1342.
Mann, T. P., 683.
Mannes, P., 1456.
Manocchio, I., 2016.
Manos, N. E., 541, 2073.
Manson, G., 2479c.
Manten, A., 1684.
Manwell, R. D., 1199.
Máramarosi, G., 154, 896, 1362, 1409, 1412.
Marcelou, U., 2116.
Marcey, E. A., 1294.
Marcus, S., 1983.
Mardis, R. E., 499.
Margarot, J., 581, 851.
Mariat, F., 37, 176, 181, 182, 187, 434, 679, 915, 949, 1163, 1428, 1453, 1454, 1640, 1851, 1964, 2096, 2257, 2437.
Marie, M., 2010.
Marill, F. G., 988.
Markson, L. M., 1074.
Marples, M. J., 918, 1104, 1678, 2428.
Marques, G. J., 783.
Marselou, U., 1068, 1406.
Marshak, L. C., 486.
Marshall, G., 2.
Marshall, T. M., 272.
Martin, D. S., 708, 917, 2073.
Martin, E. A., 343.
Martin, F. P., 1075.
Martin, H. L., 446.
Martin, M., 509.
Martin, W. J., 1503, 2265, 2435.
Martínez Báez, M., 670, 1487.
Martínez Navarro Zanón, A., 1642.
Martins, S. M., 1307.
Martin-Scott, I., 841, 1083.
Marx, F. J., 968.
Marx, H., 2141.
Masdea, E., 1319.
Mason, A., 209.
Mason, L. M., 188.
Masoni, S., 1592, 1883.
Mathe, G., 1877.
Matras, A., 580.
Matrishin, M., 1460.
Matsumoto, K. K., 1488.
Mattern, C. F. T., 1294, 2073.
Matthias, J. Q., 2515d.
Matthiesen, D. E., 1030.
Mattos, O., 2578.
Maunsell, K., 255.
Mayer, H. F., 2573, 2574.
Mayer, J. B., 2125.
Mayer, R. L., 357, 451, 1849.
Mazet, R., 1531.
Mazumdar, S. K., 1370.
Mazurek, C., 950.
Mazzara, J. R., 684.
McCaffrey, M. F., 1979.
McClary, D. O., 340.
McClellan, J. T., 789.
McClung, N. M., 1164.
McCormack, L. J., 1464.
McCormack, P., 150.
McCormick, W. C., 188.
McCoy, E., 925, 1144, 1787.
McCuskey, M. C., 2102.
McDiarmid, A., 1013, 1761.
McDonald, H. C., 1819.
McDonald, J. R., 967, 1020.
McGill, H. C., 2154.
McGivney, J., 1339.
McGovern, J. J., 559, 807.
McGrath, J. T., 1508, 2424.
McKee, A. P., 490, 2402.
McKey, R. W., 1239.
McKinnon, A. S. M., 1988.
McLaren, J. W., 653.
McLean, M. M., 1311.
McLetchie, N. G. B., 993.
McMahon, J. M., 1861.
McMillen, S., 1489.
McNamara, J. W., 615.
McPherson, E. A., 2330, 2337.
McQuown, A. L., 441, 1466.
McRae, M. E., 408.
McRoberts, C. C., 742.
McVay, L. V., 236, 470, 563, 1211.
McVickar, D. L., 90.
Mead, M., 1979.
Medarde, I., 667.
Meenan, F. O. C., 1670, 1682, 2315.
Mehnert, B., 2384, 2512.
Meijer, J. H., 1840.
Meleney, H. E., 2073.
Melnotte, P., 1548.
Melo E Albuquerque, F. J., 1234.
Meloni, F., 1900.
Memmesheimer, A. M., 413.
Menart, J., 1348.
Mendelblatt, D. L., 345.
Mendeloff, J., 267.
Mendes, E., 698.
Méndez Lemaitre, A., 56.
Mendizabal, A. F., 2518.
Menges, R. W., 21, 788, 789, 1251, 1271, 1291, 1552, 1553, 1946, 2073, 2171, 2292, 2328, 2332, 2334, 2339.
Menu, P., 1862, 2447.
Mercier, J. N., 2576.
Merendino, K. A., 217.
Merewether, R. E., 1940.
Merklen, F. P., 2576.
Merle-Béral, M. J., 223.
Merriweather, A. M., 2318.
Merveille, P., 1279, 2080, 2081.
Mescon, H., 6, 574, 1641.
Metzger, W. I., 1341.
Metzler, D. F., 2085, 2086.
Meyer, A., 1754.
Meyer, E., 1941.
Meyer, G. H., 1774.
Meyer, P. S., 1407.
Meyer-Rohn, J., 1315, 2112.
Meyrovitz, C., 2490.
Michael, M., 1280, 1569.
Michaels, L., 1794.
Middleton, J. W., 1545.
Miescher, G., 169, 895.
Miguens, M. P., 2180.
Milder, J. W., 990.
Millar, R., 688.
Millberger, H., 1069.
Miller, J. M., 13, 261, 315, 750.
Miller, M. P., 82.
Miller, O. B., 2417.
Miller, W. S., 635, 1128.
Miller, Z. R., 1532.
Minami, M., 1943.
Minder, W., 1198.
Minetto, E., 1304.
Minton, R., 1012.
Minty, C. C. J., 1979.
Misch, K. A., 1793.
Mitchell, J. H., 364.
Mitchell, R. B., 8, 200, 549, 571, 579, 1004.
Miura, O., 1408, 1598, 1599.
Miyasaki, F., 2108.
Miyasaki, T., 2107.
Mizuta, M., 2403.
Mizuta, W., 2403.
Mlczoch, F., 1878.
Moffit, G. W., 2538.
Moise, R., 1079.
Molinari, R., 1970.
Molinas, S., 1687.
Moline, R., 2576.
Moll, C. F., 1586.
Möller, A., 1605.
Molnár, J., 1800, 2536.
Monash, S., 596, 852.
Monnet, P., 1499, 2043.
Monod, O., 243, 955, 1155, 1754.
Monod, R., 1606.
Monroe, J., 311.
Monteiro, A., 1230.
Monteiro, E. V. L., 2060.
Montemayor, L., 1490.
Montero, E. D., 1807.
Montero Rodríguez, P., 1742.
Montgomery, D. O., 778.
Montreuil, F., 1758.
Moon, A. J., 478.
Moore, E. N., 249, 695.
Moore, J. C., 2068.
Moore, J. G., 227.
Moore, M., 158, 161, 449, 1080, 1623, 1996.
Moral García, J. L., 1082.
Morales, J., 2342.
Moran, A. B., 2372.
Morant, K. M., 20.
Morczek, A., 1360.
Mordaunt, V., 1841, 2089.
Moretti, G., 1641.
Morgan, B. H., 2538.
Morgan, H. J., 538.
Morgan, H. V., 2247, 2349.
Morgan, R. J., 620, 2314.
Morice, 25.
Mornet, P., 2268.
Morquer, R., 285, 1252, 1296, 2359.
Morris, E. O., 456.
Morrison, R. H., 952.
Morrow, M. B., 699, 1772, 1774.
Morse, E. V., 44.
Mortimer, P. H., 1655.
Mórtola, G., 1555.
Morton, M. M., 1308, 1888.

Mosberg, W. H., 752.
Moss, A. C., 1750.
Moss, E. S., 441.
Mosto, L. F., 2565.
Mota, A. R., 2034.
Mougeolle, J., 835, 1312.
Moulton, J. E., 1009.
Mountain, D. C., 558.
Moura, R. de A., 560.
Mourey, M., 1548.
Moursund, M. P., 258.
Mozer, J. J., 113, 829.
Mozziconacci, P., 1352.
Mrak, E. M., 118.
Mücke, D., 1360.
Mukherjee, B. B., 710.
Mülhens, H. J., 1714.
Mülhens, K., 1584.
Muller, B., 677.
Müller, E., 1494.
Müller, I., 342.
Mullet, S., 1919, 2177, 2209.
Mullins, J. F., 1125, 2293, 2513a.
Mumma, C. S., 736.
Munch-Petersen, E., 1471
Muncie, J. E., 650.
Muraoka, N., 1963
Murat, M., 1146, 1366.
Murphy, J. D., 262, 1781, 2093.
Murphy, L. C., 1181.
Murphy, M. E., 1538.
Murphy, R. J., 321.
Murphy, W. H., 2380.
Murray, J. F., 2318, 2455.
Murray, T. J., 1885.
Murrell, T. W., 1411.
Muskatblit, E., 644, 1410, 1700, 2286.
Muth, J., 289.
Muzzetto, M., 1096.
Muzzio, J. C., 1231, 1511.
Myers, J. A., 1837, 2087.
Myhr, I. B., 1209.

Naegele, C. F., 2531.
Nagao, W. T., 952.
Nakazawa, S., 1436.
Namekata, T., 2543a.
Nanda, S. P., 2433
Nasemann, T., 1328.
Nassi, L., 1593.
Natin, I., 830.
Naudascher, 25.
Naudin, G., 677.
Navarro, J. E., 1617.
Navarro Martín, A., 1658, 1660.
Nawrocki, J., 2499a.
Neal, J. E., 1492.
Nechtow, M. J., 563.
Negro, G. de L., 1039.
Negroni, P., 69, 119, 275, 442, 740, 972, 995, 996, 1081, 1244, 2160, 2498, 2521, 2529, 2552, 2563, 2585.
Neill, J. M., 2230.
Neilson, G., 2431.
Neiman, B. H., 313.
Nejedly, R. F., 2104.
Nelson, C. T., 748.
Neto, C. F., 2463.
Netto, A. S., 723.
Netto, C. F., 2156.
Netto, F. C., 2564.
Netto, J. L., 560.
Neufeld, O., 344.
Neuhaus, H., 135.
Neuhauser, I., 833, 1915.
Neves, J. A., 291, 918.
Newberne, J. W., 1492.
Newcomer, V. D., 64, 163, 515, 738, 1117, 1529.
Ney, P. E., 1867.
Nicaise, R., 1456.
Nice, C. M., 2480b.
Nichols, D. R., 1503, 2265, 2435.
Nickerson, W. J., 341, 437, 438, 561, 802, 1297, 2117.
Nicod, J.-L., 690.
Nicols, R. E., 44.
Nicora, G., 562, 1070.
Niel, K., 822.
Nielsen, G. E., 1031.
Nielson, B. D., 1983.
Nieman, R., 2319.
Nieri, I., 1597.
Nikolowski, W., 342, 354, 805, 1583.
Nilssen, W., 2412.
Ninane, J., 2345.
Nisbet, D. I., 1752.
Nishimaki, T., 204.
Nishio, J., 1292, 1846, 1847.
Nobel, T. A., 2030.
Nobrega, P., 1729.
Nolan, J. O., 1175.
Noojin, R. O., 48.
Nordén, A., 183, 496, 1715, 1975.
Norman, D. D., 1532.
Norris, J. C., 1505.
Noskov, A. I., 1639.
Nowski, S., 680.
Nuckolls, J., 940.
Nuñez Andrade, R., 869, 1657.
Nuttall-Smith, J., 1864.
Nyrke, T., 892.

Oakes, J. T., 2363.
Obligi, S., 2499b.
O'Brien, J. P., 1298.
Obry, J., 1711.
Ochsner, A., 1203.
Ocklitz, H. W., 233.
O'Connor, R., 1005, 1823.
Odashima, S., 1396.
Odonne, I., 1304.
Oehninger, C., 2479b.
Ogi, K., 210.
O'Hern, E. M., 2415.
Okabe, H., 2543a.
Okada, K., 1436.
Okami, Y., 206.
Okazaki, K., 152, 153, 633.
Oláh, D., 154, 896, 1326, 1409, 1412.
Olah, I., 590.
Olanescu, C., 2474.
O'Leary, D., 2061.
Olivares, O., 529.
Oliveira, N. H., 1232.
Oliver, R. K., 1269.
Olson, B. J., 1294, 2073.
O'Meara, D. C., 1762, 2509a.
O'Neal, R. M., 777.
Onisi, M., 940.
Orban, T. D., 180.
Ordman, D., 2031.
O'Reilly, M. J. J., 219.
Orie, N. G. M., 346.
Orikasa, M., 2543b.
Ortenzio, L. F., 407, 1685, 1686, 1965.
Ortiz Masllorens, F., 1517, 1713.
Oshima, S., 152.
Osimani, J. J., 1038.
Ost, E., 2395.
Oster, K. A., 933.
Ostfeld, A. M., 1210.
O'Sullivan, J. G., 2335.
Ota, N., 626.
Ougier, 1335.
Oura, M., 836.
Owen, E. T., 1778.
Oyaas, J. E., 452.
Ožegović, L., 2492.

Pace, H. R., 2133.
Pacosa, W., 2097.
Padeřet, M., 2522.
Paine, T. F., 355.
Palazzi, D., 1760.
Palchanis, W. T., 779.
Palchetti, G., 2479e.
Paldrok, H., 1645.
Palmrose, E. C., 39.
Paltauf, R., 1233.
Panaiotoff, I., 934.
Panetsos, A. G., 2355.
Panja, G., 1558.
Papageorge, C., 1149.
Papineau, L., 2260.
Pappagianis, D., 508, 1815, 2062.
Pappenfort, R. B., 109.
Paraf, A., 1042, 2437.
Pardo, I., 2548.
Pardo, O. A., 787.
Pardo Castello, V., 787.
Paredes, L., 529.
Pariser, H., 259.
Park, D. R., 1056.
Paroni, F., 2504b.
Parrella, M., 1032.
Parrott, R. H., 807.
Parrott, T., 2451.
Parson, W., 1858.
Partridge, B. M., 1696.
Pasqualucci, M. E. A., 2572.
Pastor, B. H., 2136.
Pätiälä, R., 121, 130, 1908.
Patterson, M., 2379.
Paucher, 1710.
Paulatou, M., 2116.
Paulsen, G. A., 1520.
Pautler, E. E., 1633.
Pavlica, F., 1610.
Paxton, G. B., 1867.
Payne, N. S., 1272.
Paynter, H. S., 762.
Peabody, J. W., 700, 920, 2079, 2093.
Peacock, C. L., 1853.
Pec, J., 414.
Peck, S. M., 128, 411, 1870.
Peck, W. A., 1808.
Pedersen, R., 927.
Peeples, W. J., 1033.
Peers, J. H., 2065.
Peeters, P., 138.

Pelson, B., 2362.
Peña Yañez, J., 378, 624, 2317.
Penta, A. Q., 1439.
Penton, S., 1269.
Peralta Bergna, H. D., 1635.
Pereira, C. C. A., 2495.
Pereiro Miguens, M., 120, 132, 368, 423, 1368, 1413, 1930.
Perez Cornejo, S., 1974.
Perkins, R. B., 1242.
Perl, G., 1611.
Perlstein, W. H., 15.
Perry, H. O., 1891.
Perry, K. M. P., 2.
Perry, R. P., 271.
Peryassu, D., 2577.
Pesle, G., 1348, 1754.
Pesle, G.-D., 243, 955, 1061, 1155, 1479.
Peterson, J. C., 1826.
Peterson, W. H., 925.
Petö, M., 957.
Petříková, J., 232.
Petty, B. W., 2392.
Pfister, R., 399, 2166.
Pfleger, R., 897.
Phaff, H. J., 118.
Phillips, S., 1438.
Phillips, T., 1050.
Piantoni, L., 2254, 2427.
Pierce, H. E., 185.
Pierce, J. W., 653.
Pierce, L. V., 571.
Pierce, W. F., 2419.
Pierini, D. O., 1555, 2551.
Piers, F., 918.
Pignot, M., 426.
Pike, R. M., 65.
Pilcher, K. S., 2227, 2319.
Piller, M., 913.
Pindborg, J. J., 1449.
Pine, L., 1274, 1561, 1853, 2007, 2255.
Pinetti, P., 2184, 2186, 2486.
Pingel, J. C., 2200.
Pinkerton, H., 309.
Pinkerton, H. E., 2073.
Pinkerton, M. E., 2293, 2343, 2379, 2513a.
Pinkes, A. H., 2230.
Pinney, C. T., 2434.
Pinsky, A., 1108.
Pintelon, L., 2048.
Pinto, D. O., 2060.
Pinto-Lopes, J., 195.
Piredda, A., 1400, 2175.
Pires, A., 842.
Pirk, L. A., 1415.
Piro, J. D., 1065, 1892.
Pitt, C. K., 317.
Pizzolato, P., 75.
Plane, J., 1055.
Platt, W. R., 974.
Plenert, W., 2126.
Plotnick, H. D., 16.
Plowright, W., 2004.
Plummer, N. S., 478.
Plummer, P. J. G., 1110.
Plunkett, O. A., 162, 513, 918, 984, 1003, 1122, 1525.
Pluss, J. M., 1053.
Pochat, A. L., 2506c.
Pogány, I., 957.
Pohan, A., 2153.
Pohowalla, J. N., 2410.
Poirier, P., 1495.
Polemann, G., 1089, 1959, 2182, 2199.
Poles, E. C., 1556.
Polk, J. W., 929, 2458.
Pollak, L., 1256, 2548.
Polo, F. J., 1491.
Polunin, I., 137.
Pompeo, I., 2504b.
Pond, N. E., 709.
Popadić, V., 105.
Popchristov, P., 2523.
Popoff, L., 934.
Poppe, J. K., 1223.
Popper, H., 462.
Portella, A., 760, 975.
Porteous, J. W., 212, 1467.
Porter, I. A., 461, 1451.
Portillo, C., 2533.
Porto, J. A., 634, 1090.
Pospisil, L., 1299.
Poston, M. A., 2451.
Potenza, L., 717, 1513.
Potter, M. D., 1944.
Pounden, W. D., 43.
Poulet, J., 1477.
Powell, E., 1294.
Powell, E. P., 2073.
Powell, R. E., 58, 219, 307.
Pozo, S., 529.
Presse, M., 1155.
Preston, W. J., 1044.
Price, H., 622.
Prieto, C., 842.
Prince, H. E., 699, 1772, 1774.
Prinsley, D. M., 2261.
Prior, J. A., 79, 333, 546, 547, 1034, 2073.
Procknow, J. J., 1029, 2446.
Propp, S., 811.
Prospero, M. T., 2513b.
Prunés, L., 681.
Pruniéras, M., 1379, 2287.
Puckett, T. F., 533, 992, 1810, 1863.
Puget, E., 285, 1296.
Pulaski, E. J., 2013.
Pullar, T. H., 2428.
Pundel, J. P., 2395.
Purandare, N. M., 647.
Putelat, R., 1330.

Quak, F., 1905.
Querol, H. E., 1511.
Quintero, J. M., 30.
Quiroga, M. I., 2488.
Quittè, C., 2256.

Rabut, R., 860.
Radding, J., 743.
Raetz, S. J., 1830.
Rakich, J. H., 1867, 2035.
Rallo, A., 305.
Ramachandran, K., 2113.
Ramain, I., 2533.
Ramamurthi, B., 1228.
Rambo, F. R., 1983.
Ramirez, C. O., 2502.
Ramos, H., 2472, 2582.
Ramos e Silva, J., 1132.
Randall, C. C., 526, 527.
Randall, H. M., 857.
Rangaswami, G., 2146.
Rankin, N. E., 242.
Ranque, J., 97, 1549.
Ranson, R. F., 1075.
Raoul-Duval, P., 677.
Raper, K. B., 636.
Raphael, S. S., 443, 658, 1796.
Rappaport, H., 1792.
Raquet, D. F., 2210, 2211.
Rasch, S., 568, 569, 570, 820, 1046, 1600, 1602.
Rašović, L., 1183.
Raton, D., 347.
Rattner, H., 485.
Raubitschek, F., 208, 898, 1405, 1416, 1689, 2309.
Rautavaara, T., 121.
Rawson, A. J., 259, 1226.
Rayle, J., 677.
Ré, L., 1282, 2485.
Rebell, G., 218, 447, 1929.
Reberger, C. G., 2353.
Redaelli, P., 1, 1760.
Reed, F. C., 1140.
Reed, R. E., 1824, 2068.
Rees, E. G., 2515d.
Rees, R. B., 1054.
Rees, V. L., 179.
Reeves, R. J., 927, 1257.
Rego, S., 1663.
Reich, A. R., 1464.
Reich, J. B., 563.
Reich, W. J., 563.
Reichenberger, M., 665.
Reid, J. D., 177, 564, 1411, 2316.
Reid, N., 993.
Reiersøl, S., 256, 548, 1705.
Reifferscheid, M., 1912.
Rein, C. R., 1870.
Reis, J., 1729.
Reis, J. B., 2530.
Reiss, F., 155, 168, 439, 616, 862, 899, 918, 991, 1105, 1472, 1673, 1674, 2361.
Reiss, H. J., 956.
Reiter, C., 2143.
Reith, H., 2200.
Renda, J., 721.
Repetto, O. M., 1730.
Repetto y Rey, B., 1157.
Requena, A., 2548.
Resnick, B. S., 24.
Resnick, H., 661.
Reuber, M. D., 1537.
Revil, H., 1862, 2447.
Rey, J. C., 830.
Reyes, A. C., 518, 1037, 2513b, 2514.
Reyes Mota, A., 1487.
Reynell, P. C., 343.
Reynold, J., 1973.
Riart, G. A., 2546.
Ribeiro, D. de O., 433.
Ribi, E., 1563, 2443.
Ricardi, E. A., 1969.
Rice, E. C., 559, 807.
Rice, W. M., 1526.
Richard, J., 2411.
Richards, M., 473, 960, 1770.
Richter, R., 413, 1924.
Richter, R. B., 554.
Riddell, R. W., 2, 1236, 2398.
Rieper, J. P., 2517c,
Rieth, H., 1086, 1340, 1367, 1420, 1893, 2476, 2477, 2494.

Rigdon, R. H., 274.
Riley, H. D., 1838.
Rimbaud, P., 581, 1580, 2224.
Ring, E. D., 40.
Ringen, L. M., 1869.
Ringrose, E. J., 2015.
Ríos Mozo, M., 1016.
Rioux, G., 1334.
Rioux, J., 1287.
Rioux, J.-A., 581, 1055, 1580, 2224.
Ristic, M., 1928.
Ritchie, E. B., 2343.
Ritter, C., 1021, 2073, 2085, 2086.
Ritter, F., 1036.
Rivalier, E., 860, 901, 2576.
Rivas-Cortazar, J. R., 2482.
Robbins, E. S., 969.
Roberts, C. S., 46, 2334.
Roberts, J. C., 636.
Roberts, R. W., 1633.
Robertson, A., 636.
Robertson, J. A., 1894.
Robertson, J. W., 1546.
Robinson, C. F., 180.
Robinson, H. M., 592, 593, 594, 599, 1392, 1393.
Robinson, L. B., 684.
Robinson, R. C. V., 1616.
Robinson, V. B., 53, 90.
Rocha, G. L., 429, 430.
Rochwell, E., 572.
Rodda, R., 2428.
Rodin, H., 485.
Rodrigues Pereira, A. S., 1905.
Rodriguez-Garcilaso, G., 2549.
Rodríguez M., J. D., 718, 1634, 1675.
Rodríguez Moreno, T., 1659.
Rodriquez, J., 487.
Rodt, E., 682.
Roegel, E., 1457.
Rogachefsky, 2204.
Rogachefsky, H., 2280, 2307.
Rogers, J. V., 2050.
Rohn, R. J., 318.
Rohrschneider, W., 431.
Rolle, C., 2419.
Rolle, M., 1158, 2525.
Romendick, S. S., 1808.
Romero, A., 713, 728.
Rominger, L., 1480.
Ronchese, F., 2271.
Rook, A., 1654.
Rook, A. J., 1417.
Rooks, R., 7668.
Roos, G., 2191.
Rosen, H., 1802.
Rosenbaum, E. M., 616.
Rosenthal, M. W., 1100.
Rosenthal, S. A., 1088, 1667, 2204, 2280, 2307.
Rosenwald, A. S., 455.
Rosiles, H., 1008.
Ross, F. K., 696.
Ross, J. A., 941.
Ross, S., 559, 807.
Rosser, T. H. L., 692.
Rossi, L., 1760.
Rossi, R., 1060.
Rossier, P. H., 349, 806.
Roth, F. H., 2380.
Roth, F. J., 1347, 2380, 2381.
Roth, J., 49.
Roth, M., 1362.
Roth, W., 587, 1613.
Rothfield, N. J., 683, 1465.
Rothman, S., 390, 391.
Rotkow, M. J., 1856.
Röttger, H., 2161.
Roubenoff, D., 2094.
Rountree, J. L., 1762.
Rowley, D. A., 1041, 1294, 1559, 1560, 1561, 1843, 1845, 2073.
Roy, L., 1754.
Rubenstein, L., 2430.
Rubin, J. H., 1277.
Ruckett, T. F., 319.
Ruehs, G., 2002.
Ruiz, A., 865, 1474.
Ruiz Moreno, G., 1049.
Rumball, J. M., 41.
Rumrich, A., 235.
Runyon, L. C., 720, 1293, 2073, 2542b.
Rush, W. E., 2479c.
Rush-Munro, F. M., 883.
Russell, S. R., 286.
Rust, S., 387, 585.
Ruther, H., 1423.
Ryan, R. W., 1831.
Ryff, J. F., 23.

Sabalitschka, T., 2141.
Sabin, A. B., 2073.
Saccharin, H., 1510.
Sachs, D., 1562.
Sachsenneger, R., 1734.
Sadek, H. M., 1235.
Sadoff, H. B., 1359.
Saggese, V., 831.
Sagher, F., 918, 1405.
Sági, T., 2360, 2510.
Sah Yun, M., 2226.
Saitō, G., 1963.
Saito, M. T., 1248, 1811.
Sakai, S., 1963.
Sakula, A., 520.
Sala, E. C., 336.
Salaber, J. A. B., 2518.
Salas, A., 2481.
Salatitch, B., 214.
Salazar, E., 2065.
Salazar Leite, A., 2269, 2485.
Salles, A. A., 2517b.
Salm, G., 388.
Saltzman, B. N., 1867.
Salvin, S. B., 63, 332, 1292, 1542, 1547, 1563, 1844, 1846, 1847, 1852, 1948, 2073, 2443.
Samel, E., 2223.
Sampaio, N., 1663.
Sampaio, S. A. P., 505, 2231, 2505b.
Samsøe-Jensen, T., 1775, 1776.
Sanchez, H. G., 985.
Sanderink, J. F. H., 2173.
Sanders, D. A., 1928.
Sanderson, P. H., 588, 606.
Sandidge, L. L., 1564.
Sandoval, M. de L. A., 2478, 2515a.
Sanjines, A., 1807.
Sansonetti de Real, A., 1904.
Santoro, A., 1038.
Sarewitz, A. B., 1615.
Sarkisov, A. H., 2244, 2245.
Sarre, S. G., 2065.
Sasaki, K., 2543a, b.
Saslaw, S., 79, 539, 546, 547, 790, 1034, 1848, 2073, 2095, 2106.
Satō, A., 1963.
Sato, S., 2543a.
Sattler, L., 329.
Sauer, R. M., 1470.
Saunders, L. Z., 89.
Saunders, W., 377, 1129.
Saurat, P., 686.
Sautter, J. H., 2358.
Savage, A., 1751.
Savage, L. J., 2073.
Savidge, R. S., 464.
Sawicky, H. H., 2321.
Saxby, C., 725.
Scales, I. K., 2520.
Scarinci, C., 1180.
Schabinski, G., 1581, 2111.
Schaefer, J., 790, 1848, 2095, 2106.
Schäfer, H., 1197, 1345.
Schaffer, N., 474.
Schaffner, C. P., 2146.
Schallock, G., 1608.
Schantz, E. J., 2189.
Schantz, S. I., 2133.
Schapiro, M. M., 798.
Schardt, W. M., 2263.
Scharfenberger, R., 1089.
Scharyj, M., 87, 722, 785.
Schatz, A., 2001.
Schatz, V., 2001.
Schell, F. G., 53.
Schepel, J. A. C., 495.
Scherb, R. E., 512.
Scherr, G. H., 565, 751, 804, 1073, 1536, 1619, 1872, 1973, 2144, 2382.
Schiff, B. L., 184.
Schiff, L. H., 1609.
Schirren, C., 1420, 1893, 2200, 2494.
Schlegel, J., 690.
Schleicher, E. M., 1526.
Schleifstein, J., 265.
Schlomka, G., 1749.
Schmid, D. O., 657.
Schmidt, B., 1289.
Schmidt, E. C. H., 2531.
Schmidt, H. W., 1126.
Schmidt, K., 2389.
Schmitz, H., 1997.
Schnall, E. S., 109.
Schnapka, O., 1481, 1786.
Schneider, G., 222, 1162.
Schneider, W., 1418.
Schneierson, S. S., 2073.
Schnitzer, R. J., 981.
Schoenbach, E. B., 13, 261.
Schofield, R. A., 2462.
Scholdager, R., 2545.
Scholz, M., 2389.
Scholz, U., 2141.
Schönfeld, J., 1419.
Schönfeld, J. H., 1340.
Schornagel, H. E., 731.
Schrader-Beielstein, H. W. 1899.
Schreus, H. T., 413, 584.
Schroder, J. D., 2459.

Schroeder, H., 889.
Schubert, J., 84.
Schubert, J. H., 2073, 2542b.
Schulman, S., 554.
Schulz, D. M., 312, 770.
Schulz, K. C. A., 2267.
Schulz, K. H., 1420.
Schuppli, R., 413.
Schürmann, R., 353, 1059.
Schwabe, C. W., 1986.
Schwanitz, F., 640.
Schwartz, B., 1266.
Schwartz, J., 774.
Schwartz, M., 2300.
Schwarz, H. G., 1648.
Schwarz, J., 260, 264, 289, 359, 443, 543, 572, 621, 658, 731, 771, 1261, 1482, 1518, 1565, 1566, 1624, 1824a, 1825, 1850, 1854, 1868, 2073, 2094, 2249, 2364, 2425, 2448, 2450, 2527, 2536, 2540.
Schwebel, S., 156.
Sclafer, J., 1288, 1314.
Scorer, C. G., 465.
Scott, E. G., 747.
Scott, M. J., 389, 1493.
Scott, R. J., 315.
Seabury, J. H., 700, 920, 2093.
Seal, R. M. E., 692.
Secrétan, P., 829.
Seeliger, H., 930, 947, 1317, 1614, 1899, 1912, 1913, 1992, 1999, 2047, 2236, 2475.
Segesman, J. K., 297.
Segretain, G., 36, 37, 91, 1068, 1224, 1515, 1640, 1851, 2096, 2437, 2584.
Seguin, L., 1065, 1892.
Seibold, H. R., 45, 46, 1631.
Seidmon, E. E., 474.
Seijas, O., 2570.
Seligmann, E., 566.
Seligman, S. A., 1187.
Sellers, K. C., 1958, 2170.
Seltzer, S., 202.
Semmler, U., 329.
Sen, S., 1558.
Senault, R., 1548.
Senda, T., 827, 1067.
Senèze, J., 1571.
Sepulveda, G., 2131.
Serpa, J., 2541.
Serviansky, B., 2448.
Severinghaus, E. L., 1415.
Shackelford, P. O., 218, 435, 620, 1133.
Shamir, A., 2030.
Shanbrom, E., 1012.
Shandra, J., 2430.
Shapiro, E. M., 2293, 2513a.
Shapiro, I., 1217.
Shapiro, J. L., 538, 1265, 1860.
Shaptseva, Mme P. I., 954.
Sharon, N., 1108.
Sharp, J. L., 1880.
Sharpe, A., 1421.
Sharvill, D., 136, 366, 1699.
Sharvill, I., 870.
Sheldon, W. H., 1628, 2555.
Shenoi, V., 1043.
Sher, J. J., 852.
Sherman, I. C., 2049.
Shidara, I., 210.
Shiels, J., 467.
Shigematsu, S., 1898.
Shintani, J., 2232.
Shoji, K., 2543b.
Short, G. E., 1526.
Shoucair, E. S., 61.
Showalter, W. V., 1676.
Shozo, K., 2543b.
Shubin, H., 2542a.
Shull, H. J., 1267.
Shumard, R. S., 871.
Shuttleworth, J. S., 261.
Sicault, G., 388.
Sidransky, H., 2025.
Sieburth, J. M., 1347.
Siegel, M., 826.
Sieracki, J. C., 2479c.
Sievers, M. L., 1134.
Silberg, S. L., 2090, 2091, 2539.
Silva, C., 429, 430.
Silva, E., 450.
Silva, M., 370, 873, 1116, 1693, 1977, 2311, 2350.
Silva, M. S., 2208.
Silverman, F. N., 771, 1565, 1824a, 2450.
Simon, C. R., 621.
Simon, J., 44, 1507.
Simon, R., 1346.
Simonnet, G., 2383.
Simons, R. D. G. P., 918.
Simons, S. A., 1811.
Simpson, D. M., 993.
Simuangco, S. A., 2167, 2313, 2351.
Sinclair, W. B. V., 2170.
Singer, D. E., 549, 571.
Singer, H., 1836.
Singer, J. I., 650.
Singh, B. N., 2410.
Singh, H., 1816.
Sinskey, R. M., 2037.
Sirena, A., 2507.
Sirsi, M., 263.
Sirtori, P. G., 2427.
Sirvén, R. H., 2044.
Sisk, J. C., 859.
Sjöström, B., 691.
Skinner, C. E., 2176.
Skillern, S., 1644.
Skobel, P., 1581, 2111.
Skogrand, A., 832.
Slade, P. R., 2349.
Sladen, W. J. L., 2023.
Slaughter, H. W., 1092.
Slawson, M. S., 1071.
Slim Villegas, V. J., 302.
Slinger, W. N., 156.
Sloane, M. B., 1618.
Sloper, J. C., 588, 606, 1683.
Sloss, P. T., 2353.
Smellie, J. M., 2392.
Smith, A. L., 191.
Smith, C. E., 508, 513, 1248, 1523, 1533, 1811, 1814, 1815, 2062, 2063, 2073, 2416.
Smith, C. H., 228.
Smith, D. L., 1229.
Smith, D. T., 655, 917, 1440, 1483, 1785, 1981, 2000, 2250, 2451.
Smith, D. W., 857.
Smith, F., 1182.
Smith, G. M., 1906.
Smith, G. W., 750, 752.
Smith, H., 1876.
Smith, J. G., 1483.
Smith, L. M., 1971.
Smith, R. M., 925.
Smith, R. T., 1562, 1830, 2078.
Smith, S. G., 1785.
Smith, W. W., 2339.
Smulewicz, J., 350.
Snapper, I., 462, 1211, 1489, 1527, 2073.
Snider, G. E., 261.
Snider, K., 1897.
Snijders, A. S., 2266.
Snoke, P. O., 80, 1273.
Snyder, M. L., 1071.
Snyder, W., 156.
Soares, J. A., 433.
Soeda, M., 203, 1436.
Soemiatno, 970.
Solotorovsky, M., 704.
Sommer, S., 1728.
Sonck, C. E., 169.
Soneda, M., 1708.
Sones, C. A., 1856.
Sorensen, L. J., 1218, 1268, 2440.
Sorensen, R. H., 1522.
Sotelo-Ortiz, F., 1528.
Sotgiu, G., 2082.
Soucheray, P. H., 1057.
Souza, J. L., 2572.
Soysal, S. S., 979.
Spada, C., 398, 406, 2184, 2185, 2217.
Spaïs, A., 92.
Spalla, C., 1736.
Spath, F., 2479a.
Spence, M. J., 1033.
Spicknall, C. G., 1831.
Spino, M. D., 814.
Spitz, L. J., 1266.
Spoor, H. J., 411, 902, 1136.
Sprofkin, B. E., 1265, 1860.
Sprunt, D. H., 236, 470.
Squadrini, F., 687.
Stadler, H. E., 2480c.
Staib, F., 1879, 2123, 2524.
Stamler, F. W., 490.
Standish, E. M., 583.
Stanford, S., 84.
Stange, H.-H., 17.
Stanham, J., 2479b.
Stankaitis, J., 2102.
Stapff, V. H., 2515b.
Starr, G. F., 2233.
Staufenbiel, A., 1450.
Stedman, R. L., 904.
Steele, D. S., 2358.
Steen, L. H., 1212.
Steffen, C. G., 980, 1529.
Steigleder, G. K., 1087.
Stein, H. F., 295.
Steinbach, O. K., 743.
Steinberg, I. R., 741, 994.
Stella, J. G., 2396.
Stenderup, A., 1620, 1907, 2119, 2357.
Sterman, L., 2060.
Sternberg, T., 163.
Sternberg, T. H., 515, 738, 836, 1072, 1117, 1529, 2408.
Sternberger, L. A., 1777.

Stevens, H., 1169.
Stevenson, J. W., 2008.
Stewart, A. E., 2493d.
Stewart, G. T., 2405.
Stewart, R. A., 918.
Stiefel, E., 758, 1318.
Stijns, J., 753.
Stilinovič, Z., 2150.
Stillians, A. W., 489.
Stockdale, P. M., 127, 404.
Stockman, G., 643.
Stonerod, M. H., 2109.
Story, L. F., 240.
Stott, H. M., 523, 1281.
Strand, A., 1600, 1602.
Straub, M., 731, 1565, 1566, 2425, 2527.
Straube, W., 1317.
Strauss, J. S., 1099.
Streit, R., 988.
Streja, M., 2474.
Strug, L. H., 700.
Stuart, E. A., 1632, 2028.
Stuart, L. S., 1965.
Stuart, P., 115.
Stubbart, F. J., 1201.
Stubben, B., 338.
Stubbs, F. H., 68.
Stubbs, R. K., 2225.
Studdert, T. C., 252.
Stühmer, H., 164.
Sturde, H. C., 1895.
Subotnik, N., 563.
Subramaniam, R., 234.
Sugano, S., 629, 631.
Sulkin, S. E., 65.
Sullivan, M., 375, 1424, 1701.
Summers, W. A., 2520.
Sureau, P., 2584.
Susman, M. P., 1795.
Suter, L. S., 52, 1459, 2006.
Sutlif, W. D., 537, 1022, 1496, 2035.
Sutton, H. H., 2363.
Sutton, L. E., 1272.
Sutton, R. L., 880.
Svatek, Z., 2205.
Swartz, H. E., 1961.
Swartz, J., 848.
Swartz, J. H., 918, 922.
Sweeny, H. E. K., 41.
Sweeney, P. J., 1058.
Symeonidis, A., 1917.
Symmers, W. St. C., 494, 2083, 2103.
Syrop, H. M., 215.
Syverton, J. T., 49, 2381.
Szabó, G., 641.
Szaflarski, J., 2499a.
Szendi, B., 948.
Szwejkowski, H., 361.
Szymona, M., 143.

Taber, W. A., 2117.
Tager, M., 296.
Tahler, E. D., 773.
Tahsinoglu, M., 979.
Takahashi, I., 637.
Takaro, T., 1781.
Takashima, T., 540.
Takeda, N., 2543b.
Takos, M. J., 277, 1805.
Talbot, J. M., 870.
Tanaami, T., 210.
Tanzi, F., 1029.
Tanzola, J., 1849.
Taranyuk, P. S., 1638.
Tarbet, J. E., 64, 163, 290, 515, 738, 836, 1072.
Tarlatzis, C. B., 2355.
Taschdjian, C. L., 567, 644, 935, 1063, 1120, 1150, 1386, 1410, 1700, 2286, 2312, 2321, 2367.
Tassinari, G., 72.
Tat, L., 1924.
Taubitz, K., 2509b.
Taya, O., 206.
Taylor, D. R., 622.
Taylor, E. P., 1944.
Taylor, G., 2451.
Taylor, H. C., 1026.
Tchobanian, H. K., 166.
Telner, P., 1962.
Ten Berg, J. A. G., 12.
Tenchio, F., 861.
Tenczar, F. J., 16.
Tenenberg, D. J., 2073.
Teramo, M., 1358.
Tesle, G., 1754.
Testard, E., 1453, 1454.
Teusch, W., 211, 685.
Teuscher, E., 1468.
Tevis, L., 2438.
Texier, 557.
Theodorides, E., 712.
Theriault, R. J., 749.
Théron, B., 2437.
Thiago de Mello, M., 918.
Thiery, G., 2268.
Thiry, S., 1747.
Thjøtta, T., 1046, 1300, 1600.
Thjötta, T., 568, 569, 570, 820.
Thomas, B. A., 376.
Thomas, C. C., 185.
Thomas, H. E., 1557.
Thomas, P. A., 2013.
Thompson, C. C., 601, 1101, 2289.
Thompson, R. C., 879.
Thompson, W. F., 1213.
Thone, A. E., 918.
Thone, A. W., 918.
Thordal-Christensen, A., 951.
Thornell, W. C., 2036.
Thorpe, G. A., 1063.
Thurmer, J., 2479d.
Thys, A., 60, 1078, 1636, 2158.
Tichacek, B., 2305.
Tilling, W., 1019.
Timmons, H. F., 1929.
Timpe, A., 1569.
Tirschek, H., 1691.
Titsworth, E., 371, 1677.
Tjoeieng, N.-I., 2556.
Tjokronegoro, S., 1855.
Tobias, N., 1934.
Tobler, W., 1198.
Tōjyō, K., 2403.
Tolmach, J. H., 918.
Tomcsik, J., 976.
Tomić-Karović, K., 105.
Tompkins, M., 1248.
Tompkins, V., 265.
Torheim, B. J., 1300, 2194.
Torre, D. P., 918, 1121.
Torres, E. V., 2504c.
Torres, G., 2218.
Tost, J. F., 1807.
Tóth, G., 2051.
Townsend, T. E., 1239.
Traub, E. F., 411, 852.
Trejos, A., 573, 713, 727, 728, 739, 1237.
Trelawny, G. S., 2001.
Trenchi, H., 247.
Tresner, H. D., 2509a.
Treurniet, A. E. G., 326.
Trichereau, R., 2052.
Triglianos, A., 480, 1994.
Trimble, J. R., 34, 2066.
Tritsmans, E., 138, 645, 1118, 2201.
Tropé, J., 1173.
Tropeano, A., 507.
Trotter, M. D., 1949.
Troutman, H. D., 1066.
Troxell, M. A., 542.
Truant, J. P., 2479c.
Tsai, S. Y., 1832.
Tsuchiya, T., 2107, 2108.
Tsuruoka, M., 887.
Tuck, I. M., 1227.
Tucker, E. W., 1354.
Tucker, H. A., 328, 787.
Tucker, R., 688.
Tudbury, P., 1809.
T'Ung-en, C., 1801.
Turn, J., 1530.
Turner, D. J., 526.
Turner, O. A., 937.
Turner-Graff, R., 1108.
Tuttle, J. G., 492.
Tuza, K., 1326.
Twiehaus, M. J., 1189.
Tyler, R., 2426.

Ueda, Y., 1943.
Ulrich, E. W., 52, 436, 537, 1429, 1943.
Ulrich, J. A., 165, 1644, 1891.
Umezawa, H., 206.
Umnova, I. I., 2288.
Unat, E. K., 905, 979.
Underwood, P. C., 1625, 2145.
Ungerman, A. H., 1102.
Ungerman, M. S., 1102.
Unsworth, A. C., 2263.
Úri, J., 641, 2187.
Usabel, E. J., 2507.
Utsumi, I., 887.
Uzman, L. L., 1802.

Vaccaro, H., 73, 106, 529.
Van Baarle, F., 1225.
Vanbreuseghem, R., 60, 99, 124, 138, 139, 146, 147, 148, 149, 287, 363, 401, 402, 403, 444, 645, 754, 794, 795, 878, 906, 931, 1078, 1091, 1118, 1137, 1142, 1143, 1152, 1153, 1284, 1391, 1475, 1476, 1550, 1568, 1636, 1922, 1923, 1985, 1990, 2158, 2159, 2195, 2196, 2201, 2323, 2407, 2445, 2497, 2516c.
Van Brussel, M., 146, 147, 148, 401, 402, 403.

Van Damme, O., 689.
Van de Erve, J., 582.
Van de Kamp, J., 1455.
Van den Akker, S., 186.
Vandepitte, J., 755, 2345.
Van der Meiren, L., 1118, 2323, 2497.
Van der Meulen, H., 2153.
Vanderploeg, D. E., 258.
Van der Werff, P. J., 257, 1768.
Vaněček, R., 232.
Van Eeckhoutte, P., 1621.
Van Goidsenhoven, F., 1225.
Van Huysen, G., 2520.
Van Overeem, 2153.
Van Staveren, C., 1821.
Van Uden, H., 195, 284, 1282, 1836, 2511.
Van Wymeersch, H., 2195.
Vardhanabhuti, S., 2508.
Vargas-Salazar, R., 450.
Vasconcelos, E., 1235.
Vasiljević, A., 2492.
Vasiljević, D., 1183.
Vaucher, E., 1457.
Vaughan, B. F., 1459.
Vázquez, P., 467.
Vasquez Ferro, E., 1051.
Vásquez Hoyos, A., 671.
Vega, V. S., 2582.
Velázquez, T., 1243.
Veltman, G., 1390.
Velutini, L. E., 2549.
Verdier, P., 1055.
Verge, J., 71, 1042, 1570, 2437.
Vergez, J., 1346.
Vermeil, C., 711.
Veronesi, R., 1039.
Verselder, R., 60.
Vertinsky, K. I., 2155.
Verwey, W. F., 703.
Viallier, J., 1330.
Viart, P., 1573.
Vidal, J., 1287.
Vidal, R. J., 1097.
Vidal, S., 2506b.
Vieu, J.-F., 1301.
Vieu, J. P., 1572.
Vieu, M., 1964, 2374.
Vignale, B., 1807.
Vilanova, X., 384, 385, 907, 918, 2493a.
Villar, T. G., 783.
Vince, S., 2390.
Vincent, A., 1426.
Vincent, J., 292.
Vinelli, H., 194.
Virtanen, I., 101.
Visy, J. L., 1441.
Vital, A. F., 1756.
Vivancos, C., 69.
Vivancos, G., 1114.
Vivancos Gallego, G., 608.
Vivian, D. N., 1020.
Vivot, N. A., 1931, 2488.
Vogel, R. A., 834, 997, 999, 1280, 1309, 1569, 2376.
Volini, M., 2225.
Voller, R. L., 2418.
Volta, W., 122.
Vorotilkina, P. I., 2479f.
Vorreith, M., 351.
Vortel, V., 1500.
Vrijman, L. H., 918.
Vrtiak, J., 2221.
Vučetich, M., 1081.

Wahi, P. N., 1025.
Waisbren, B. A., 1782.
Waisman, M., 882, 2393.
Waksman, S. A., 208, 2146.
Walch, J., 895.
Waldron, C. A., 1739.
Walker, J., 394, 522, 1376, 1956.
Walker, T. K., 2113.
Wallace, G. L., 2555.
Wallace, H. J., 1622.
Wallach, E. A., 1414.
Wallbank, W. L., 344.
Wallenborn, P. A., 1276.
Wallner, E., 416.
Walls, K. W., 1218, 2441.
Walther, H., 1972, 2192.
Walton, I. K., 893.
Walz, D. V., 2402.
Wangensteen, O. H., 462.
Wanson, M., 287.
Ward, J. M., 2073.
Ware, M., 1867.
Warin, R. P., 1672.
Warner, M. P., 858.
Warren, C. M., 2206.
Warren, S. A., 1777.
Warrick, G. W., 48.
Wasserman, E., 32.
Watanabe, A., 2543b.
Watanabe, K., 2543a.
Watanabe, M., 2543a.
Waterson, A. P., 237.
Watrin, J., 835, 1312.
Watson, K. C., 2461.
Way, M., 2272, 2455.
Wayne, L. G., 2070.
Ways, P., 2077.
Wear, J. M., 482.
Webb, P. A., 294, 300.
Weber, W. E., 165.
Webster, B. H., 2012.
Wedgwood, J., 237.
Wedin, D. S., 1523.
Weed, L. A., 491, 967, 1020, 1788, 2233, 2264, 2480c.
Wegmann, T., 192, 266, 806, 1901.
Weichlein, R. G., 207.
Weidlich, N., 248.
Weidman, F. D., 2365.
Wei-Fang, C., 1801.
Weigl, W., 2302.
Weinberg, M. S., 2401.
Weiner, M. A., 174, 2320.
Weinstein, M., 681.
Weisel, W., 701.
Weiss, E. D., 314.
Weld, J. T., 114, 339.
Wellens, W., 2196.
Weller, C. W., 615.
Werder, A. A., 49.
Wesener, G., 1103.
West, M. K., 703.
Wettingfeld, R. F., 2531.
Wheeler, C. E., 857.
Whimster, I. W., 1607.
Whitaker, H. W., 929.
Whitcomb, F. C., 742.
White, F. C., 1554.
White, M. L., 1778.
Whitehill, M .R., 1226.
Whitfield, G. B., 1430.
Whitlock, E., 1263.
Whitlock, F. A., 646.
Whitmore, M., 1867.
Whittle, C. H., 381, 1107, 1653.
Wichelhausen, R., 684.
Widra, A., 2369.
Wiedmann, A., 817, 1373, 1646.
Wiehl, R., 1423.
Wier, R. H., 733.
Wiese, G. A., 1364.
Wilde, H., 1372, 1647.
Wildervanck, A., 324, 327.
Wilkerson, W. W., 534.
Willaert, L., 149.
Willcox, D. R., 1179.
Williams, D. A., 1770.
Williams, M. J., 1445.
Williams, O. B., 118.
Williams, T. H., 40.
Willis, J. D., 2428.
Willis, M. J., 76, 2073.
Wilsdon, A. J., 1753.
Wilson, H. M., 544, 961.
Wilson, J. W., 162, 419, 511, 513, 595, 918, 984, 1122, 1307, 2232, 2365.
Wilson, K. S., 1731.
Wilson, W. W., 2366.
Wilt, J. C., 1204, 1377.
Winckel, W. E. F., 86, 281, 324, 325, 326, 327, 525.
Windisch, S., 1704, 1879, 1886, 2123.
Winer, L. H., 163, 515.
Winkler, A., 1322.
Winn, W. A., 1001.
Winner, H. I., 1305, 2110.
Winsten, S., 704, 1885, 2371.
Winston, R. M., 522.
Winter, W. D., 1578, 1882, 1884.
Winter, W. J., 2124.
Wising, P. J., 1336.
Wissel, K., 2306.
Witchell, I. S., 1316.
Witt, O., 2017.
Witter, J. F., 250, 1762.
Witz, Mme M.-A., 2130.
Wolf, A., 576.
Wolff, L., 211, 685.
Wolff, O. H., 2392.
Wood, J. L., 1424, 1701, 1916, 2135.
Woodside, R., 1997.
Wooldridge, W. E., 639, 859.
Woolf, A. L., 1179.
Workman, W. G., 2073.
Worms, R., 2504a.
Wortmann, F., 1764.
Wright, E. T., 64, 515, 738, 1117, 2408.
Wright, L. T., 1341.
Wu-Fei, C., 2045.
Wunderlich, C., 838.
Wünsche, K., 28.
Wüstenberg, J., 2274.
Wynn, J. O., 1627.

Yabuki, M., 2543a.
Yamada, J., 1431.
Yamaguchi, T., 1436.

Yamamoto, K., 1431.
Yang, D., 902.
Yapounnolou, K., 1747.
Yast, C. J., 1816.
Yawn, E. C., 571.
Yeaman, A., 595, 1307.
Yegian, D., 769.
Ygobone, A., 741, 994.
Yogiashi, Y., 2543a.
Yokouti, E., 827, 1067.
York, J. R., 1857.
Young, A. M., 2220.
Young, C. J., 620, 1133.
Young, G., 2375.
Young, J. C., 435.
Young, J. M., 436, 1429.
Young, R. M., 735.
Young, R. V., 1012.
Yudkofsky, P. L., 2375.

Zablotskii, T. M., 2553.
Zaffran, A., 230.
Zaharia, Z., 2474.
Zanacca, G., 19.
Zander, E., 2259.
Zapater, R. C., 95, 196, 983, 1202, 1231, 1511, 1514, 1706, 1909, 2469, 2470, 2471, 2506c.
Zapletal, J., 2221.
Zdráhal, L., 1500.
Zegarelli, E. V., 215, 1065, 1892.
Zeidberg, L. D., 1017, 1023, 1258, 1259, 2073, 2457.
Zeiss, K. H., 2011.
Zeledón, R., 912.
Zeman, W., 746.
Zettergren, L., 691.
Zimmer, F., 903.
Zimmerman, H. E., 2145.
Zimmerman, L. E., 1222, 1254, 1732, 1790, 1792, 2444.
Zimmermann, O., 417.
Zini, F., 360.
Zinneman, H. H., 528.
Ziskind, J., 75.
Zitka, E., 224, 1170, 1176.
Zivy, P., 1754.
Zmajevich, G., 70, 1036.
Zonchello, S. A., 406.
Zubillaga Z., C, 1829.
Zuliani, A., 1592.
Zweiling, G., 1939.

Absidia corymbifera on the guinea-pig in Great Britain, 1721.
— — on man in Great Britain, 1721; Hungary, 839.
— — on the mouse, 1917.
— — on the rabbit, study on, 1628.
— *ramosa* on cattle in Great Britain, 1721.
— — on the guinea-pig in Great Britain, 1721.
— — on man in Great Britain, 1720.
— — on the rabbit, study on, 1628.
Acetic acid, use of against dermatophytes, 900, 1666, 1928.
Acetone, use of against *Trichophyton*, 136.
Achorion, 140.
—, use of antergen, 153; benadryl, 152; clove oil, 152; and ergenol, 152, against.
— *decipiens* on man in Java, 140.
— *gypseum*, see *Microsporium gypseum*.
— *passerinum* on poultry in Brazil, 1729.
Achromycin, use of, against *Actinomyces israeli*, 1743.
Acid resin complex, fatty, use of against *Candida albicans*, 833.
Acids, fatty, use of, against dermatophytoses, 1647.
'Acijel', composition of, 1587; use of, against *Candida albicans*, 1587.
Acladium castellanii on the mouse, 284.
Acremoniella betyi, 1913.
— *lutzi* synonym of *Allescheria boydii*, 94.
— — on man in Brazil, 2156.
— *rugulosa*, 1913.
Acremonium potronii on man in Brazil, 2156.
Acrizane chloride, use of, against *Candida albicans*, 1586.
Acromycin, use of, against *Nocardia asteroides*, 2263.
Acrothecium hominis on man in Hungary, 664.
Actamer, action of, on dermatophytes, 871.
ACTH effect of, on trichophytin reaction, 616.
—, use of against *Aspergillus*, 660; *Candida albicans*, 343, 1332; *Histoplasma capsulatum*, 331; *Trichophyton quinckeanum*, 168.
Actidione, 201, 545; in relation to *Coccidioides immitis*, 514; *Cryptococcus neoformans*, 2049; *Trichophyton concentricum*, 870; use of, against *Blastomyces dermatitidis*, 52, 971; *Cryptococcus neoformans*, 269, 1149, 1504, 1796, 2429; *Histoplasma capsulatum*, 544; in culturing dermatophytes, 409; pathogenic fungi, 1149.
Actinobacillosis, see *Actinobacillus lignieresi*.
Actinobacillus actinomycetemcomitans on cattle and man in France, 1447.
— *lignieresi* on cattle in U.S.A., 651; taxonomy of, 239.
Actinomyces, antibiotics produced by, 201.
— on man, U.S.A., 450.
— *bovis* a valid species, 671; cell wall of, 1735; culture of, 469, 2478; pathogenicity of, 24; taxonomy of, 666, 671, 2006; use of bacitracin, 1459; badional, 1714; carbomycin, 1459; erythromycin, 1459; terramycin, 469; and tyrothricin, 100, against.
— — on cattle in Hawaii, 762; (?) Italy, 19; U.S.A., 238, 471, 1189; isolation of, from semen, 238; use of maggot therapy against, 471.
— — on the deer in U.S.A., 23.
— — on the dog in England, 20; U.S.A., 21; review of, 1986.
[*Actinomyces bovis*] on the horse in (?) Queensland, 18.
— — on man, see *A. israeli*.
— — on the rat, inoculation of, by the intrathyroid route, 687.
— *brasiliensis* on man, 7.
— *brumpti* synonym of *Nocardia madurae*, 1746.
— *carneus*, 686.
— *dermatonomus* on sheep in Great Britain, (?) 1752, 1753; New Zealand, 240; comparison of, with *Streptothrix bovis*, 2266, 2267.
— *flavus*, production of flavacid by, 637.
— *graminis* on man in U.S.A., 213.
— *griseus*, use of tyrothricin against, 100.
— — var. *globisporus* on man in Hungary, 1167.
— *gypsoides* synonym of *Nocardia asteroides*, 671.
— *israeli*, culture of, 2007; production of acid phosphates by, 1161; relation of *Lactobacillus bifidus* to, 2255; sensitivity of, to some antibiotics, 2019; taxonomy of, 666.
— — on animals, laboratory, 1739; effect of adrenal solution on, 950.
— — on cattle in France, 1446, 1447.
— — on man, 7, 14, 658, 1139, 1994; in Algeria, 230; Argentina, 196; Austria, 224, 1170, 1176; Belgium, 943, 1456, 1747; Canada, 457, 2260; Chile, 681; Czechoslovakia, 232; Denmark, 10, 1172, 1449, 1458, 2014; France, 223, 677, 1168, 1173, 1177, 1188, 1446, 1457, 1738, 2010; French Guiana, 1452; Germany, 211, 221, 222, 231, 233, 235, 667, 673–675, 680, 682, 685, 930, 939, 944–946, 1162, 1450, 2011, 2017, 2256, 2261, 2355; Great Britain, 11, 212, 225, (?) 227, (?) 228, 456, 461, 464, 465, (?) 675, 683, (?) 941, 1187, 1443, 1465, 1748, (RN) 1940, 2258, 2261; Holland, 12, 1455; Hungary, 948; India, 734, 1442; Italy, 678; Mexico, 669, 670, (?) 672, 926, 942; New South Wales, 2009; New Zealand, 1182; North America, 1140; South Africa, 1154; Spain, 757; Switzerland, 2259; U.S.A., 13, 15, (?) 215, 217, 220, 462, 463, 469, 470, 482, 661, 927, 938, 1175, 1181, 1435, 1439, 1463, 1464, 1739, 1741, 1743, 1982, 1993, 1994, 2018, 2250; U.S.S.R., 1186, 2249; Yugoslavia, 1183; affecting the abdomen, 12, 946, 1183, 2011, 2014, 2018, 2260; appendix, 232; arm, 457, 464, 1168; bloodstream, 2018; bone, 226, 927; brain, 1443, 1747, 2018, 2479 *b*, *c*, *d*; bronchial tubes, 235; canaliculi, 227; chest, 464, 674, 680, 683, 942, 1175, 1186, 1188, 1465, 2258; eye, 228, 926; face, 15, 220–224, 236, 461, 470, 661, 681, 938, 939, 1172, 1188, 1446, 1447, 1458, 1739, 1741, 1743, 2010, 2017, 2018; fallopian tubes, 2011; feet, 456; genitals, 217, 465, 948, 1182, 1461; heart, 2479*f*; humerus, 1168, 1464; hypochondrium, 1452; jaw, 13, 215, 225, 463, 1170, 2009; kidneys, 670, 2479*b*; legs, 464; liver, 232, 462; lungs, 7, 224, 230–234, 456, 462, 653, 675, 680, 682, 757, 930, 941–944, 958, 1177, 1439, 1450, 1456, 1457, 1738, 1993, 1994, 2000, 2017, 2250, 2261, 2479*a*, *b*; mediastinum, 1738; meninges, 677; mouth, 945, 2385; nervous system, 2259; neck, 15, 220, 221, 222, 223, 224, 236, 461, 470, 661, 678, 681, 938, 939, 1172, 1175, 1176, 1188, 1446, 1447, 1458, 1739, 1741, 1743, 1748, 2010, 2017, 2018; omentum, 2011; ovary, 667, 1181; periodontium, 1739; pleura, 224; retroperitoneal region, 2018; rib, 1463;

scapula, 1173; sinus, 1442; skin, 1435, 2249; spine, 482; subphrenic space, 941; teeth, 226, 1176; testicle, 2479*e*; thorax, 1174, 1175, 2018; tongue, 1449; tonsils, 11; vertebral column, 224, 1455; viscera, 2018; allergy associated with, 5, 2258; causing osteomyelitis, 224, 225; commensalism in cultures of, 1467; comparison of *Nocardia brasiliensis* and, 9, 942; culture of, 212, 456, 469, 1172; diagnoses of, 196, 222, 462, 653, 1992, 2250, 2258; giant cells in, 1162; in relation to *N. brasiliensis*, 669, 670; isolation of, from faeces, 464; pus, 661, 2259; sputum, 231, 456; methods of treating, 1448, 2258; occupational nature of, 1940, 2256; pathogenesis of, 1728; problems of, 685; recent information on, 1450, 1982; serology of, 958, 1992; taxonomy of, 669, 670; therapy for, 2000; toxicity of streptomycin to, 1442; use of achromycin, 1743; antibiotics, 2018; aspergillin, 1173; aureomycin, 11, 12, 233, 236, 673, 678, 941, 944, 945, 1173, 1175, 2017, 2260, against; Bayer's salusupronal, 1456; biosulpha, 1175; chloramphenicol, 11; chloromycetin, 673, 677; diazil, 2259; diazine, 1455; isoniazid, 470, 1168, 1188, 1741; lugol, 681; lymph node extracts, 223; merazine and mesathine, 1455; neomycin, 1743, nydrazid, 1741; oxytetracycline hydrochloride, 220; penicillin, 10, 11, 15, 145, 217, 221, 225, 226, 230, 231, 233, 235, 457, 463–465, 673, 674, 680, 682, 938, 939, 942, 943, 948, 1173, 1176, 1183, 1186, 1442, 1448–1450, 1455, 1456, 1464, 1465, 1738, 2010, 2011, 2018, 2259, 2260, 2261; potassium iodide, 221, 235, 463, 683, 943, 1176, 1183, 1464, 1465, 2011, 2260; stilbamidine, 13; streptomycin, 11, 226, 230, 673, 683, 1173, 1176, 1183, 1450, 1456, 1465; sulphadiazine, 217, 230, 1448, 1465, 2260; sulphapyrimidine, 939; sulpha, 1738; sulphonamides, 230, 233, 235, 456, 2018; supronal, 231, 680, 682, 946, 2011; téhyphon, 1177; terramycin, 215, 469, 673, 2011; T.H.F., 1177; X-rays, 221, 231, 682, 1173, 1176, 1183, 2011, against.

[*Actinomyces israeli*] var. *lignefaciens*, 666.

— *muris-ratti* on man in England, 237.

— *naeslundi*, culture of, 469; production of acid phosphates by, 1161; relation of *Lactobacillus bifidus* to, 2255; use of terramycin against, 469.

— *silberschmidti* on man in Brazil, 2005.

Actinomycetes, culture of, 1736; effect of aureomycin on, 1460; microscopic study of, 459, 460.

— of man, in Canada, 1138; affecting the teeth, in U.S.A., 940.

Actinomycin in relation to *Cryptococcus neoformans*, 2044.

Actinomycosis, 14, 439.

— of cattle in Switzerland, 239; U.S.A., 651.

— of the dog in Canada, 1751; France, 686; U.S.A., 21, 951.

— of the horse in Queensland, 18.

— of man in Austria, 1745; Canada, 1174; Denmark, 10, 1171, 1458; Germany, 9, 211, 216, 1178, 1749; Great Britain, 1185, 1462; Italy, 458, 1180; S. America, 440; Spain, 1742; U.S.A., 214, 1169, 1184; affecting the appendix, 1749; chest, 1174; coccyx, 1185; colon, 1184; face, 458, 1458; genitals, 17; gums, 458; jaw, 214, 215, 1171; lungs, 1178, 1180, 1190, 1742; neck, 458, 1458; nervous system, 1169; pelvic organs, 1462; sinus, 1185; skin, 9; associated with carcinoma, 1745; Bostroem type of, 17; compensation liabilities in relation to, 1749; confusion between tuberculosis and, 1466; diagnosis of, 229, 231, 1190; forms of, 231; important aspects of, 14; osseous type of, 216; review of, 2165; symposium on, 1466; use of aureomycin, 1462; penicillin, 9, 10, 214, 1169, 1180, 1745; procaine penicillin, 1171; streptomycin, 1745; sulphadiazine, 1169; sulphonamide, 9, 1180; and terramycin, 214, against.

Adrenal solution, effect of, on infection of laboratory animals by *Actinomyces israeli*, 950.

Adrenocortical hormones in relation to dermatophytosis of man, 1951.

Adrenocorticotropical hormone, use of, against *Cryptococcus neoformans*, 747.

Aerosol apparatus, 235.

Air spora, in Argentina, 1202; Brazil, 698; Canada, 1767; Costa Rica, 1474; Cuba, 1766; Denmark, 1776; Great Britain, 251, 255, 473, 960, 1720, 1770; Hawaii, 959; Holland (factories and workshops), 1768; Israel, 477, 697; New Zealand, 472, 1473; Norway, 256; South Africa, 2031; Switzerland, 1764; U.S.A., 474, 475, 476, 765, 766, 1200, 1270, 1291, 1482, 1765, 1771–1774.

— — in relation to allergic diseases, 474; 698; asthma, 474, 698, 1766, 1770; histoplasmosis, 765, 1270, 1291; skin scrapings, 1200.

Aleurisma carnis, antibiotics of, 625.

— — on man in Germany, 2191.

— — similar to *Microsporum audouini*, 856.

— *castellanii* on man in Portugal, 1707.

— *immitis*, *Coccidioides immitis* renamed, 291.

— *lugdunense* on man in France, 125, 1130.

Alkaryl sulphonate, use of against *Candida albicans*, 646.

Alkyl-arylsulphonate, use of against *Candida albicans*, dermatophytes, and hyphomycetes, 1373.

Alkyl(cetyl)-dimethyl-benzyl-ammonium chloride, toxicity of, to *Trichophyton mentagrophytes*, 368.

Allergic response to *Candida albicans*, 1049; air spora, 474; *Aspergillus*, 256; moulds, 957; *Paracoccidioides brasiliensis* and *Blastomyces dermatitidis*, 964.

Allergic diseases of man, 5, 658; role of fungi in, 29.

Allescheria boydii, *Acremoniella lutzi* synonym of, 94; action of X-rays on oxygen uptake of, 1360; experimental production of mycetomas caused by, 1475; not the perfect state of *Monosporium apiospermum*, 94; nutrition and sporulation of, 2348; perfect state of *M. apiospermum*, 1078, 1632; *Pseudallescheria sheari* synonym of, 94; saprophytism in the epidemiology of, 1141; toxicity of filipin to, 1430.

— — in sewage and water in U.S.A., 2003.

— — in soil, 1432; in Hawaii, 1722; Panama, 1253, 1722; U.S.A., 1722.

— — on the dog in (?) U.S.A., 1631.

— — on man in Argentina, 325, 336, 2507; Belgian Congo, 1078; Brazil, 2156; Canada, 1632; Ecuador, 1634; Germany, 1912, 1913; North America, 1140; Trinidad, 576; Uruguay, 1911; U.S.A., 1359, 1361, 1633, 1914; affecting the ankle, 1914; ear, 1632; eye, 1633; foot, 336, 1078, 1359, 1634, 1914; lungs, 1361; nervous system, 576; isolation of, from spinal fluid, 576; sputum, 1361; serological study on, 1913; use of actidione, 1149; cresatin, 1632; diactetyl 2′2-dioxy-5′5-dichlorodiphenyl sulphide, 1912; Geigy 20704 and 21772, 200;

lergigan, lisergan, and phenergen, 200; and terramycin, 336, against.
Alopochen aegyptiacus, Rhinosporidium seeberi on, in Belgian Congo, 2464.
Alpha-alpha-diperidyl, toxicity of, to *Histoplasma capsulatum* and *Paracoccidioides brasiliensis*, 2002.
Alternaria in the air in Argentina, 1202; Israel, 697; U.S.A., 1200; in relation to skin scrapings, 1200, 1201.
—, serological study on, 1777.
— *tenuis* on man in Germany, 1786.
Ammoniated mercury, use of against *Microsporum audouini*, 1395; *M. canis*, 1934; *Trichophyton tonsurans*, 899.
Amolysol, use of against dermatomycoses, 1637.
Androgen, use of against *Coccidioides immitis*, 1817.
Animals, Basidiomycetes on, in U.S.A., 1250.
—, *Coccidioides immitis* on, 1250; in U.S.A., 1159.
—, *Gymnoascus reessii* on, in U.S.A., 1250.
—, *Microsporum gypseum* on, U.S.A., 651; spread of, from soil, 651.
—, moulds on domestic, 1158.
—, mycoses of, in Great Britain, 1718, 1720, 1721; dispersal of, 2243; manual on, 2239; recent work on, 2238.
—, mycotoxicoses of, in U.S.S.R., 2245.
—, ringworm of, in U.S.A., 2328.
Antergen, use of against dermatophytes, 153.
Antibiotic X–G, use of, against *Blastomyces dermatitidis*, 52.
Antibiotics, effect of *Candida albicans* on, 1592; inducing changes in host flora, 1144, 2515*e*; in relation to Aspergillosis, 1198, 2028; *Aspergillus flavus*, 2025; *A. fumigatus*, 692; *Blastomyces dermatitidis*, 98, 709; *Candida*, 1732; *C. albicans*, 348, 349, 351–354, 558, 563, 803, 805, 811, 826, 838, 1054, 1056, 1059, 1060, 1064, 1070, 1317, 1319, 1323, 1331, 1332, 1337, 1345, 1346, 1348, 1572–1574, 1577–1580, 1584, 1589, 1608, 1610, 1799, 1873, 1874, 1875, 1877–1880, 1890, 1894, 1897, 1901, 2114, 2140, 2378, 2387–2391, 2395, 2396, 2515; *C. krusei*, 355, 1068, 1572, 2124; *C. mortifera*, 661; *C. pulcherrima*, 2403; *C. tropicalis*, 811, 1068, 2124; *C. parapsilasis*, 2124; *C. pseudotropicalis*, 2124; *Coccidioides immitis*, 98; *Cryptococcus neoformans*, 497, 498, 760, 826, 1794, 1799; *Geotrichum asteroides*, 826; *Histoplasma capsulatum*, 98; *Microsporum audouini*, 826; moniliasis, 98, 562, 2405; mycoses, 349, 657, 956, 1434, 1985; *Saccharomyces cerevisiae*, 355; *Sporotrichum schencki*, 98; *Trichophyton mentagrophytes*, 826; *T. rubrum*, 826; yeasts, 1302, 1330, 1354, 1908.
—, production of, by *Actinomyces*, 201; dermatophytes, 625; *Microsporum* sp., 2188; *Streptomyces aureus*, 208; *Trichophyton* sp., 2188.
—, technique for determining sensitivity of pathogenic fungi to, 571.
—, use of, against *Actinomyces israeli*, 2018; *Candida albicans*, 342; mycoses, 2251; *Nocardia asteroides*, 937; *Paracoccidioides brasiliensis*, 279; pulpless tooth infection, 202; *Trichophyton mentagrophytes*, 1113.
Antifungal antibiotics, 1370.
Antihistamine, use of, against dermatophytoses, 902, 2477.
'Antiphytin' and 'antiphytin-forte', use of, against dermatophytosis, 587.
Antipyogenic filtrates, use of, against *Malassezia furfur*, 425.
'Antisporon', use of, against dermatophytosis, 135.
Aretit 'Bayer', use of, against *Saccharomycopsis guttulata*, 2150.
Aromatic diamidines, use of, against *Candida albicans*, 551.
Arsenite, effect of, on metabolism of *Microsporum audouini* and *M. canis*, 601.
Arthritis of man, *Actinomyces muris-ratti* associated with, 237.
Ascosin, assay of, in serum, 1072; production of, by *Streptomyces canescens*, 792, 2105; use of, against *Histoplasma capsulatum*, 792, 2105.
Aspergillin, use of, against *Actinomyces israeli*, 1173.
Aspergillosis of the cat in U.S.A., 2358.
— of cattle in Italy, 2029.
— of the duck, fowl, and goose in Great Britain, 1721.
— of man in Belgium, 1476; ?Canada, 1758; France, 480, 1759; Germany, 244, 479, 956, 1197; Italy, 1760; S. Africa, 1154; S. America, 440; Sweden, 691; Switzerland, 693, 1198; U.S.A., 26, 1783; U.S.S.R., 954; affecting the ?antrum, 1758; bladder, 1476; bones 1198; bronchial nodes, 1198; cerebellum, 1198; lungs, 244, 479, 480, 693, 954, 956, 958, 1154, 1190, 1198, 1759, 1760, 1783; nervous system, 26; antibiotics in relation to, 1198; aureomycin in relation to, 691; diagnosis of, 1190; penicillin in relation to, 244, 691, 1197, 1760; 'pseudotuberculosis aspergillina' form of, 956; serology of, 958; sulphonamides in relation to, 244; use of didromycin and penicillin against, 480.
— of the mouse, use of testosterone against, 932.
— of the rat, induced by cortisone, 2360.
— of the turkey in Great Britain, 1721.
Aspergillus infections, ACTH and cortisone in relation to, 660.
— — on the fowl in Great Britain, 1721.
— on man, in U.S.A., 450; affecting the lungs, 2, 1479; use of phaeofacin against, 206.
— *amstelodami* on man in Brazil, 2156; (?) France, 25; Germany, 1151.
— *bouffardi* not a valid species, 2156.
— *brodeni* on man, affecting the lungs, 1994.
— *carneus* on man in France, 2359.
— *chevalieri*, toxicity of, to cattle, 1192, 1193.
— *clavato-nanica* on man in Brazil, 1755.
— *clavatus* on animals, 1432.
— — on man in Great Britain, 478; Holland, 257.
— —, toxicity of, to cattle, 1192, 1194.
— *flavipes* on birds in Great Britain, 1721.
— — on man, 1757; in Canada, 2028; Germany, 1481; Hungary, 1733; U.S.A., 1439, 2025; affecting the ear, 1757, 2028; eye, 1733; heart, 2025; lungs, 1439; antibiotics in relation to, 2025, 2028; use of fissantar oil against, 1481; metacresyl acetate, metacresyl acetate+ thymal salicylic acid, brilliant green, gentian violet, triple dye, 1757.
— on poultry in Brazil, 1729.
— *flavus-oryzae*, toxicity of, to cattle, 1193.
— *fumigatus*, antityrosinase activity of, 1379, 2287; effect of antibiotics and chemical drugs on growth of, 2355.
— — in the air in Argentina, 1202.
— —, toxicity of, to animals, 2021.
— — in water and sewage in U.S.A., 2003.
— — on animals, 1432; in Great Britain, 1720.
— — on birds, wild, in Great Britain, 1721, 1761; Japan, 481; U.S.A., 1199.

[*Aspergillus fumigatus*] on the canary in Brazil, 2509*c*.
— — on cattle in Germany, 248; Great Britain, 1721; Italy, 2024.
— — on deer in Switzerland, 2027.
— — on the duck in Gold Coast, 1988.
— — on the fowl in Brazil, 249; Germany, 2509*b*; Gold Coast, 1988; Great Britain, 116, 1191, 1196; Uruguay, 247; U.S.A., 246, 249, 250, 696, 1762, 2509*a*; transmission of, through the eggshell, 246; use of penotrane against, 116.
— — on the guinea-pig in Great Britain, 1721.
— — on man, 243, 955, 1139, 1994; in Belgium, 689; Brazil, 2156; Canada, 2028; Denmark, 2357; France, 1155, 1477, 1754, 1759, 2026; Germany, 930, 1151, 1195; Great Britain, 242, 478, 2356; Greece, 245; Holland, 257; Hungary, 1733; Korea, 26; Norway, 246; Switzerland, 690; U.S.A., 445, 692, 1439, 1478, 2250; affecting the antrum, 1759; brain, 1195, 1478; bronchial tubes, 1754; ear, 2028; eye, 1733; lungs, 245, 257, 478, 653, 690, 692, 930, 958, 1155, 1439, 1477, 1759, 1994, 2000, 2026, 2356; maxillary sinus, 2357; nervous system, 26; skin, 1151; antibiotics in relation to, 692, 2028; chloramphenicol in relation to, 242; culture of, 445; diagnosis of, 653, 1992; in relation to pulmonary mycoses, 257; isolation of, from sputum, 256, 478, 1759; nose and palate, 445; tissue sections, 478; serology of, 958, 1992; up-to-date therapy for, 2000; use of actidione against, 1149; creosote, 258; neo-salvarsan, 257; penicillin, 245; potassium iodide, 257; sulphamides, 245.
— — on poultry in Brazil, 1729; Great Britain, 2022.
— — on rats, cortisone in relation to, 2510.
— — on sheep in Palestine, 2030.
— — on the turkey in England, 116; U.S.A., 455, 695; use of penotrane against, 116.
— *glaucus* on man in Germany, 1112, 1480.
— *mycetomi* not a valid species, 2156.
— *nidulans*, non-ascosporic strain of, 636; production of nidulin and *nor*-nidulin by, 636.
— — on birds in Great Britain, 1721, 1761.
— — on man, 1757; in Brazil, 2156; Canada, 2028.
— *niger*, effect of pityrol on, 627; platonin on, 628; *Sanguisorba officinalis* root extract on, 626; sodium 2, 4-dichlorphenosyacetate on, 629; vitamin K_3 on, 630.
— — on birds in Great Britain, 1721.
— — on man, 1757, 1994; in Canada, 2028; France, 1155, 1637; Great Britain, 478; Hungary, 664; Norway, 256; U.S.A., 1439; Venezuela, 1989; affecting the ear, 1757, 1989, 2028; eyelids, 664; lung, 1155, 1439, 1994; Meibom's glands, 664; skin, 1637; antibiotics in relation to, 2028; 'hemp disease' in relation to, 256; isolation of, from sputum, 256; treatment of, 1637, 1757.
— *nigricans*, antagonism of, to some skin pathogens, 1370.
— *oryzae* on man, in Norway, 256.
— *sulphureus* on man, in Australia, 652.
— *sydowii* on man, in Brazil, 1756.
— *tamarii*, toxicity of, to cattle, 1193.
— *terreus* on the cat in Great Britain, 2162.
— — on man, in Norway, 256.
— —, production of terreic acid by, 694.
— *versicolor* on man in Great Britain, 478.
Asterol, development of resistance to, in *Microsporum canis* and *Trichophyton mentagrophytes*, 1677; in relation to convulsions following treatment against tinea capitis, 1414; use of, against dermatophytes, 878, 1943, 1971; *Malassezia furfur*, 876; *Microsporum audouini*, 876, 1102, 2214; *M. canis*, 861; moniliasis, 876; onychomycosis, 390; *Sabouraudites langeroni*, 1923; *Trichophyton ferrugineum*, 1923; *T. interdigitale*, 2306; *T. megnini*, 1416; *T. mentagrophytes*, *T. persicolor*, 2306; *T. rubrum*, 639, 876, 2295, 2306, 2311; *T. tonsurans*, 899; as an antimycotic, 1441.
[Asterol] dihydrochloride in relation to convulsions following tinea capitis, 1415; encephalopathy, 877; toxicity of, to man, 419–421; use of, against, *Candida albicans*, 419, 1307; *C. krusei*, 1307; *Microsporum audouini*, 420; *M. canis*, 420; tinea capitis, 877; *Trichophyton rubrum*, 162, 2311; *T. tonsurans*, 419.
Asthma of man in Brazil, 254; U.S.A., 344.
Atebrin, use of, against *Histoplasma capsulatum*, 308.
Athlete's foot of man in Belgium, 138, 2201; Switzerland, 850; public baths in relation to, 2197, 2201, 2303; use of undecylenic acid against, 850.
Atropine, use of, against epidermophytosis, 1666.
Aureomycin, 52, 201; effect of, on moniliasis, experimental, 209, 2383; in relation to anorectal complications, 1337; aspergillosis, 691; *Candida albicans*, 98, 343, 350, 558, 566, 809, 824, 1064, 1333, 1336, 1338, 1347, 1882, 1883, 2128, 2388; *C. krusei*, 355; *C. pseudotropicalis*, 806; *C. tropicalis*, 1335; *Cryptococcus moli-schianus*, 1347; moniliasis, 808; *Saccharomyces cerevisiae*, 355; *Torulopsis rubra*, 824; innocuous to mice, 2379; use of, against *Actinomyces israeli*, 11, 12, 233, 236, 673, 678, 941, 944, 945, 1173, 1175, 1187, 2017, 2260; actinomycetes, 1460; actinomycosis, 1462; *Blastomyces dermatitidis*, 1211, 1783; blastomycosis, 557; mononucleosis, 1821; *Candida albicans*, 107, 108, 557, 807, 1313, 1572, 1573, 1584; *C. krusei*, 1572; *Coccidioides immitis*, 1006; *Cryptococcus neoformans*, 108; *Histoplasma capsulatum*, 1859; nocardiosis, 667.
Azaserine, production of, by streptomyces and use as a fungicide, 452.

Bacillomycin A and R, production of, by *Bacillus subtilis* and use of against dermatophytes, 1108.
Bacillus chitinovorus chitinase, effect of, on dermatophytes, 1408.
— *subtilis*, antagonism of, to some skin pathogens, 1370; production of bacillomycin A and R, 1108, flavomycin by, 921.
Bacitracin, 12, 572; in relation to *Candida albicans*, 2112; use of, against *Actinomyces israeli*, 1459, 2019; *Trichophyton rubrum*, 161.
Bacteria, inhibition of, by dermatophytes, 625.
Bacterium '13', '16', use of, against dermatophytes, 640.
— *actinomycetemcomitans* on man with *Actinomyces israeli* in Denmark, 10.
Badional sulphathiocarbamide, toxicity of, to fungi, 1714.
Basidiobolus ranarum on the horse and man in Indonesia, 2153.
Basidiomycetes on animals in U.S.A., 1250.
'Bayer' DY935 and 987, use of, against *Candida albicans*, 1340.
Beauveria on animals, 1432.
Bees, yeasts in, in Italy, 1501.
Benadryl, use of, against dermatophytes, 153, 410.

Benzathiazole ether, use of, against *Trichophyton mentagrophytes*, 1687.
Benzoderm, use of, against dermatomycosis, 903.
Benzoic acid, use of, against dermatophytes, 1687, 1938.
Beta-naphthal and Beta-nitroso-alpha-naphthol, toxicity of, to *Histoplasma capsulatum* and *Paracoccidioides brasiliensis*, 2002.
Betaine hexdecylamide chloride, use of, against *Microsporum audouini*, 2054.
— tetradecylamide chloride, use of, against *Cryptococcus neoformans*, 2054.
Betanaphthoquinoline, toxicity of, to *Histoplasma capsulatum* and *Paracoccidioides brasiliensis*, 2002.
Bicalcium phosphate in relation to growth of *Candida albicans*, 560.
Biomycin, use of, against blastomycotic dysentery in pigs, 2155.
Biosulpha, use of, against *Actinomyces israeli*, 1175.
Biotin in relation to *Blastomyces dermatitidis*, 1787; *Sporotrichum schencki*, 434.
Birds, fungi pathogenic for, 2244.
— and wild mammals, bibliography of diseases of, 2241.
—, wild, *Aspergillus flavus* on, in Great Britain, 1721.
—, —, *Aspergillus fumigatus* on, in Great Britain, 1721, 1761; Japan, 481; U.S.A., 1199.
—, —, *Aspergillus nidulans* on, in Great Britain, 1721, 1761.
—, —, *Aspergillus niger* on, in Great Britain, 1721.
—, —, *Rhinosporidium seeberi* on, in Belgian Congo, 2464.
Bisisoquinolinium derivatives, toxicity of, to *Candida albicans* and dermatophytes, 1944.
pp′-Bis-oxy-diphenyldisulphide, use of, against dermatophytes, 1371.
Bismuth, use of, against *Cryptococcus neoformans*, 1505.
— camphor-carbamate, use of, against *Candida albicans*, 1070.
— salicylate in oil, use of, against *Cryptococcus neoformans*, 1505.
Blastocystis, taxonomy of, 706.
Blastomyces, taxonomy of, 2473.
— *dermatitidis*, 332, 539; antagonism of *Chaetomium globosum* to, 923; antigenic relationship of *Paracoccidioides brasiliensis* and, 964; antisera, 2088; biotin as a growth requirement for, 1786; chromosome structure of, 483; cortisone in relation to, 660; culture of, 1983, 2090; effect of isonicotinic acid hydrazide on, 662; *B*-propiolactone on metabolism of, 965; pyribenzamine, on metabolism of, 966; *Escherichia coli* inhibiting, 446; sensitivity of, to diamidine derivatives, 1489; serology of, 708; toxicity of filipin to, 1430; yeast phase antigen of, 1485, 1540; use of blocked steroids, 447; candicidin, 1147; chlorquinaldol, 1966; endomycin, 1891; flavomycin against, 921; mycostatin, 2253; mycoticin, 922; oligomycin, 925; phenamidine, 453, 454; propamidine, 453; stilbamidine, 453; trichothecin, 1433; trimeton, 2361, against.
— — on animals, antibiotics in relation to, 98.
— — on the dog in U.S.A. (?)53, 789, 969, 1159, 1492, 1987, 2363.
— — on the hamster, experimental infection of, 1515.
— — on man, 7, 543, 1139, 1994, 1995; in Australia, 1778; Canada, 488, 656, 1138, 1204–5, 1206, 1495, 1784; Germany, 930, 1494, 1786; (?)Ghana, 1786; Great Britain, 1940; Hungary, 1214; 1798; India, 263, 710, 782; Italy, 962–3; Japan (U.S. Navy), 1488; Mexico, 1487, 2034; N. America, 1140; Switzerland, 266; Tunisia, 711; U.S.A., 48, 51, 197, 258–9, 262, 264–5, 267, (?)482, 484, (?)485, (?)486, 487, (?)489, 490–1, 661, 700–702, 705, 707–709, 772, 773, 789, 920, (?)927, 929, 961, 967–969, 1203, 1207, 1209–1213, 1435, 1439, 1482–1484, 1493, 1496, 1778, 1780–1783, 1785, 1788, 1837, 1980, 1982, 1993, 1996, 2035, 2039, 2233, 2248–9, 2750, 2362, 2364, 2365, 2366; Venezuela, 1490, 1491; accidental percutaneous inoculation of, 2365; affecting arm, 489; bone, 927, 962, 1207; epididymides, 963; eye (?)963, 2037; eyelids, 1779; face, 486; feet, 267, 928, 1213; fingers, 1786; hand, 1213; heart, 709, 968; knee, 489, 968; larynx, 1993, 2036; leg, 1213, 2039; lungs, 7, 48, 262–266, 489, 653, 656, 661, 701, 707, 772, 782, 929, 930, 958, 961, 963, 967–969, 1203, 1207, 1209, 1212, 1214, 1439, 1483, 1488, 1778, 1780–1783, 1785, 1993, 2000, 2038, 2362; mouth, 1207; muscles, 1207; (?)nervous system, 963; nose, 489; nostril, 1779; (?)respiratory tract, 1213; scalp, 489, 1779; skin, 51, 258, 488, 705, 707, 710, 963, 967, 1204, 1205, 1207, 1210, 1493, 1782, 2038, 2249, 2365; spinal cord, 492; spine, 483; spleen, 968; tissues, 265; tongue, 1490; trachea, 1993; wrist, 487; association with carcinoma, 1783; blastomycin in relation to, 1837; comparison of, with *Coccidioides immitis*, 264, 731; *Cryptococcus neoformans*, 497; *Histoplasma capsulatum*, 264, 731; tuberculosis, 731; conversion of, from mycelial to yeast-like phase, 769; cortisone acetate, in relation to, 49; culture of, 264, 1490; diagnosis of, 653, 772, 773, 1212–1214; factors affecting, 705; forms of, 491, 492, 700; isolation of, from gastric contents, 967, 1483, 1785; sputum, 661, 1483, 1785; long duration of, 1494; morphological study on, 1996; occupational nature of, 1940, 2035; pathogenesis of, 1728; propamidine in relation to, 782; recent information on, 1982; resistance of, to stilbamidine, 2039; Roentgen aspects of, 2362; serological study on, 708, 958; skin test antigens from yeast phase of, 1264; small forms of, 264; staining methods for, 920, 2233; stilbamide in relation to, 484, 487, 488, 702, 963; study on, 1788; survey of literature on, 928; transmission of, by air-borne spores, 1482; up-to-date therapy for, 2000; use of actidione, 52; antibiotic, 208, 3569; antibiotic X.G., 52; aureomycin, 1211; 1783; bacillomycin B, 52; *Blastomyces* vaccine, 2039; candicidin, 205; carbon dioxide snow, 1484; diethylstilbestrol, 51; dihydroxystilbamidine, 2038; distilbene, 1486; electrotherapy, 962; ethyl vanillate, 52; humulon, 52; hydroxystilbamidine, 702, 704, 1203, 1207, 1211, 1496, 1780, 1785, 1980; iodide, 267, 482, 700, 701, 705, 1205, 1779; iodine, 489, 962; lupulon, 52; para-aminosalicylic acid, 961; penicillin, 1789; potassium iodide, 262, 1209, 1213, 1214, 1492, 1495, 1789, 2036; propamidine, 702, 704; sodium iodide, 1493; stilbamidine, 50, 51, 258, 259, 484–489, 702–3, 704, 1203, 1205, 1209–10, 1488, 1496, 1780, 1782, 1785, 2366; sulphamide, 1789; streptomycin, 962; syntestrim, 1789; undecylenic acid, 52, 262, 1781; X-rays, 267, 705, 1205, 1209, 1493, 1789, against; wrongly diagnosed as cancer, 485;

X-rays in relation to, 49; yeast phase of, 208, 700, 703, 708.
[*Blastomyces dermatitidis*] on the mouse, use of stilbamidine on, 260.
Blastomycin testing in Hawaii, 762; S. Africa, 88; U.S.A., (?) 774, 2087, 2542.
Blastomycosis of man, 439, 970; in Costa Rica, 713; France, 557; Greece, 712; Uruguay, 1076; U.S.A., 197, 482; affecting conjunctiva, 712; lung, 2, 1190; skin, 557; spine, 482; diagnosis of, 482, 1190; use of aureomycin, 557; streptomycin, 713; and sulphamides, 713, against.
—, Jorge Lôbo's, 986.
Blastomycotic dysentery in pigs, in U.S.S.R., 2155.
Boric acid, use of, against *Candida albicans*, 105.
Botryomycosis of man in Great Britain, 1940.
Bradex, use of, against dermatomycoses, 885, 1692.
Bradex-vioform, use of, against dermatomycoses, 885, 1388–1390, 1692.
Bradosol, use of, against *Candida albicans*, 1065, 1892.
Brettanomyces, 799.
Brilliant green, use of, against *Aspergillus flavus*, *A. nidulans*, and *A. niger*, 1757; *Candida albicans*, 1325, 1419, 1906; *Candida* spp., 1588; *Histoplasma capsulatum*, 2002; *Microsporum audouini*, 855; *Paracoccidioides immitis*, 2002; *Trichophyton interdigitale*, 1419, 1684.
Bromidrosis of man, in relation to dermatomycoses in U.S.A., 2308.
Bromoacetic acid, use of, against dermatophytes, 423.
5-Bromosalicyl-4′-chloranilide a component of multifungin, 1972.
— use of, against *Trichophyton interdigitale*, 1423.
Bromothiazone, see Thiosemicarbazones.
'Bronchiectasing aspergilloma' of man, 955; (?) France and Holland, 243.
Bronchomoniliasis of man, status of, 1304.
Burro, *Coccidioides immitis* on the, in U.S.A., 651.
Butylphenamide, use of, against dermatophytes, 2487.

'Calciferol', use of against *Candida albicans*, 1311.
Calcium lactate, use of against *Candida albicans*, 1311.
Calliphora, *Cryptococcus neoformans* in, 2042.
Canary, *Aspergillus fumigatus* on the, in Brazil, 2509c.
Cancer, diagnosis of, by means of *Candida albicans*, 353; blastomycosis wrongly diagnosed as, 485.
Candicidin, assay of, in serum, 1072.
—, use of, against *Blastomyces dermatitidis*, 1147; *Candida albicans*, 1063, 1147, 1612; facial allergic disease caused by *C. albicans*, 1649; *Histoplasma capsulatum*, 1147; mycoses of man, 205; secondary fungus infections from antibiotic therapy, 1147.
Candida, classification of, 799, 2107, 2108, 2512; metabolism of, 2113; nutrition in relation to yeast shape in, 802; polysaccharides of, 1602; rapid identification of, 2369; relation of *C. claussenii* to, 2511; vitamin requirements of, 2374.
— on man in Austria, 448, 654; Italy, 1358; U.S.A., 450, (?) 2138; affecting the bowel, 1358; urogenital tract, 450; antibiotics in relation to, 1732; causing intracavitary fungus ball, 2138; isolation of, from blood, 448; urine, 654; use of moldin against, 206; penicillin against, 1358.
[*Candida*] fermentation reactions of species of, 1300.
— list of species of, in Norway, 1295.
— *albicans*, 1298; antagonism of *Chaetomium globosum* to, 923; of some antifungal antibiotics to, 1370; antibiotic effect of *Streptomyces madurae* on, 679; of *Oospora virescens* on, 825; antibiotics as a source of nitrogen for, 2114; in relation to growth of, 1068; toxic to, 2377, 2378; antigens of, 568, 2107, 2108; aureomycin in relation to, 560, 566, 1338, 2128; *C. stellatoidea* identified with, 1885; cortisone in relation to, 566, 660; chlamydospore medium for, 341; cultural study on, 1329, 1983; culture of, 129, 560, 564, 567, 801, 1047, 2090, 2116, 2513; in chick embryos, 360; diagnosis of, 2109; detection of pathogenicity of, 1308; effect of antibiotics and antifungal drugs on, 1890; *Bacillus chitinovorus* chitinase on, 1408; bacitracin on, 2112; bicalcium phosphate on, 560; chloramphenicol on, 2112; cortisone on virulence of, 2254; cysteine on virulence of, 1885; growth factor of, on *Mycobacterium tuberculosis*, 1871; on antibacterial action of antibiotics, 1592; on sarcoidosis, 536; organic polysulphides from cabbage on, 1889; penicillin and streptomycin on, 2112; temperature on, 565; vitamin B on, 890; B 12 on, 890, 1998; growth requirements of, 1329; interaction of, with *Escherichia coli*, 446, 2377; with *Lactobacillus acidophilus*, 2375; media for the differentiation of, 1887, 1888; mutant of, 1297; method of preserving, 644; staining, 644, 919; morphological study on, 1706; pathogenicity of, 1873, 1874, 1875; on chick embryo, 1328; penicillin and streptomycin effect of, on, 552; physiology of, 2115; polysaccharides of, 834; R phase of, 103; reduction of sulphite by, 561; relation of to *C. stellatoidea*, 570; serology of, 569, 570, 815, 820, 1046, 1218, 1309, 1600, 1601, 2376; supersonic extract of, 2380; symbiosis of, with *Staphylococcus*, *Lactobacillus*, and *Escherichia*, 101; technique for detecting antibodies of, in rabbit antiserum, 1309; for examining, 1150; terramycin in relation to, 566; toxicity of bisisoquinolinium derivatives to, 1944; filipin to, 1430; sodium lauryl sulphate and sodium propionate to, 1964; use of amino steroids, 451; bacillomycin A and R, 1108; badional, 174; Bayer Dy, 935, 987, 1340; bradosol, 1065, 1892; brilliant green, 1419, 1588; candicidin, 1147; *Chenopodium* oil, 1576; chinosol, 1340; chloramphenicol derivation, 1066; chlorquinaldol, 1966; cialit, 1340; dibromosalicyl, 1714; dichloroxyquinaldine, 2224; 2,6-diiodphenol, 1340; 2,2′-dioxy-5, 5′-dichlorophenylsulphide, 2128; di-paralene, 555; endomycin, 1891; flavacid, 637; fluvomycin, 921; fuchsin, 1576; garlic juice, 143; gentian violet, 1419, 1576; hyamine, 1622, 1576; Lugol's solution, 1576; lysozyme, 103; malachite green, 1340, 1588; marladal, 1584, 1714; merkuril, 1340; methyl-mercury-aristamid, 1340; methylene blue, 1576; methyl violet, 1588; monothiouronium derivatives, 2225; mycolutein, 1997; mycostatin, 2128, 2253, 2379; mycothricin, 2146; mykohexan, 1399; N(1)-ethyl-mercury-

albucid, 1340; pentamidine, 1620; 3-, 4-, and 5-phenylsalicylamide derivatives, 226; *p*-oxybenzoic alkyl esters, 2141; sodium-ethylmercurisalicylate, 1576; streptolysin-sulphur +silver nitrate, 1431; surfen, 1714; terreic acid, 694; THF, 1731; β-propiolactone against, 1595; tetrahydro-9 fluorenone, 1905; 2:4:5-trichlorophenoxyacetic acid impurity against, 142; tetradecylisothiouronium chloride, 2225; trichomycin, 1436; trichothecin, 1433; 2, 4, 6-triiodphenol against, 1340; stilbamidine, 1620; supronal, 1714; undecylenic acid, 1431; thiosemicarbacide, 1714; thiosemicarbazone of enanaldehyde, 1714, against.

[*Candida albicans*] in soil in New Zealand, 1626; U.S.A., 1722.

— — on animals, effect of antiserum on, 819; granule formation in, 828; pathogenicity of, 359; sex hormones in relation to, 932.

— — on capercaillie in Poland, 2139.

— — on cattle, the dog, and the elephant, isolation of, from faeces, 2384.

— — on the fowl in Great Britain, 116, 837, 1721; Poland, 361; U.S.A., 1625; Venezuela, 1904; aureomycin and terramycin in relation to, 1347; diagnosis of, 1625; use of copper sulphate against, 2145; penotrane against, 116.

— — on guinea-pig, factors affecting, 1952; serology of, 102.

— — on man, 1139; in Algeria, 1606; Argentine, 1049, 1051; Australia, 652; Austria, 817, 822, 823, 824, 1064, 1322, 1373, 1643, 1646, 1878; Belgian Congo, 99, 1575; Belgium, 1550, 1621, 2395, 2407, 2411; Brazil, 2397; Canada, 108, 131, 656, 1138, 1603, 1604; Chile, 106, 1059; Czechoslovakia, 351, (?) 1799, 2205; Denmark, 1332, 1907, 2387; Finland, 130; France, (?) 557, 800, 816, 1048, 1055, 1060, (?) 1155, 1313, 1314, 1333, 1334, 1342, 1343, 1346, 1348, 1352, 1479, 1486, 1571, 1572, 1573, 1594, 1877, 1896, 2130, 2132, 2137, 2142; Germany, 231, 338, 342, 353, 354, 805, 812, 813, 838, 930, 1112, 1197, 1288, 1315, 1317, 1323, 1325, 1345, 1589–1591, 1605, 1879, 1893, 1895, 2111, 2123, 2125, 2384, 2385; Great Britain, 253, 343, 1050, 1311, (?) 1574, 1607, 1622, 1880, 1903, 1940, 2110, 2121, 2392, 2398; Canada, 2325; Czechoslovakia, 2404; Holland, 346, 1156, 1951; Hungary, 1326, 2389, 2390; India, 821, 1043, 2410; Indo-China, 111, 112; Israel, 350; Italy, 831, 1060, 1070, 1304, 1319, 1593, 2129; Japan, 1067, 1310, 1598, 1599, 1898, 2120, 2409 (U.S. Army); Lebanon, 818; Mexico, 926, 2127; New S. Wales, 2358; New Zealand, 1991; N. America, 1140; Northern Ireland, 1058; Norway, 809, 832; Philippines, 2131, 2167; Republic of Ireland, 2140; Spain, 757, 810, 1318; S. Africa, 1052; Sweden, 352, 1290, 1303, 1577; Switzerland, 803, 850, 1336, 1900, 1901, 2391; Turkey, 107; Uruguay, 2386; U.S.A., 8, 98, 109, 339, 340, 341, 345, 356, 357, 411, 419, 550, 551, 553, 554, 558, 559, 563, 572, 661, 807, 812, 814, 833, (?) 859, 880, 1053, 1054, (?) 1056, (?) 1057, 1063, 1092, 1302, 1307, 1316, 1324, 1331, (?) 1339, 1353, 1439, 1578, 1586, 1587, 1609, 1611, 1612, 1615–1618, 1894, 1897, 1906, 1980, 1982, 1993, 2124, 2133–2136, 2250, 2290, 2293, 2299, 2324, 2367, 2375, 2393, (?) 2394, 2396, 2400–2402, 2406, 2408; Venezuela, (?) 1327; Yugoslavia, 105, 1306; affecting air passages, 1070; anus, 1054, 1328, 1348; beard, 1893; bilis, 2521; blood cells, 1043; bloodstream, 351; brain, 1345; bronchi, 1303, 1479; cardiac valves, 822; digestive tract, 1621, 1879; ear, 105; eye, 345, 926; faeces, 2514; feet, 554, 850, 880, 928, 1112, 2205, 2299; gastro-intestinal tract, 2391, 2515*a*; genitals, 1054, 1615, 1898; hands, 554, 880, 1112; heart, 1574, 2136; internal organs, 1303; intestines, 351, 833, 1070, 1352, 2123; kidneys, 99, 351, 356, 1324, 1345, 1346, 1352; larynx, 1303; leg, 1053; liver, 2391; lungs, 107, 350–352, 553, 656, 661, 757, 803, 806, 812, 816, 821, 831, 832, 930, 958, 1050, 1055, 1058, 1155, 1156, 1304, 1310, 1314, 1317–1319, 1324, 1336, 1342, 1352, 1439, 1589, 1593, 1603, 1604, 1606, 1879, 1880, 1906, 1907, 1993, 1994, 2000, 2137, 2250, 2387, 2389, 2391; mouth, 554, 1053, 1056, 1315, 1322, 1331, 1337, 1348, 1609, 1616–1618, 2127, 2140, 2367, 2375, 2385, 2388, 2389, 2392, 2393, 2406, 2408, 2410–11, 2515*b*, 2520; mucous membrane, 859; nails, 554, 1053, 1056, 1609, 1618, 1622, 1895, 1896, 2143, 2324, 2519; nervous system, 1052; nose, 1303; oesophagus, 351, 1907; peritoneum, 343, 554; pharynx, 1070, 1303, 1348, 1617, 2392; renal pelvis, 2389; scrotum, 1053; skin, 130, 557, 572, 805, 859, 1112, 1312, 1313, 1324, 1609, 1622, 1643, 1646, 2140, 2325, 2367, 2391, 2408, 2409; spleen, 351, 1324; stomach, 2142; thigh, 108; throat, 342, 1593, 1605; tongue, 1353, 1607, 2142; tonsils, 1316, 1479, 1608; urethra, 2129; urinary tract, 1352, 1900; urinogenitals, 1306; vagina, 563, 1051, 1067, 1307, 1571, 1573, 1586, 1611, 1612, 1616, 1618, 2130–2135, 2142, 2167, 2394–2398, 2400–1, 2408, 2517, 2518; vulva, 1348, 1587, 2130, 2131, 2140, 2395, 2398; account of, 2398; A.C.T.H. in relation to, 343, 1332; action of sodium azide on, 1071; agglutinins in sera of, 2110; antibiotics in relation to, 98, 99, 348–350, 353–4, 558, 563, 803, 805, 811, 826, 838, 1054, 1056, 1059, 1060, 1070, 1302, 1317, 1319, 1323, 1331, 1332, 1334, 1337, 1341, 1345–1348, 1352, 1572–1574, 1577, 1578, 1579, 1580, 1584, 1589, 1608, 1799, 1873, 1874–5, 1877–1879, 1894, 1897, 1901, 2140, 2375, 2387, 2388–9, 2390–1, 2395–6; associated with, Addison's disease, 1609; *Epidermophyton floccosum*, 1053; farmer's lung, 253; neoplasms, 2124; *Proteus vulgaris* and *Pseudomonas aeruginosa*, 2120; staphylococci, 7322; tuberculosis, 1055; aureomycin in relation to, 98, 343, 350, 558, 559, 807, 809, 824, 1064, 1333, 1336, 2388; aureomycin hydrochloride in relation to, 109; biochemical changes in, 97; causing asthma, 1314; facial allergic disease, 1049; meningitis, 1333; cell reaction of, 1336; chloramphenicol in relation to, 98, 558, 559, 807, 1333, 1621; chloromycin in relation to, 1332; cortisone in relation to, 1332, 1336, 1877–8, 2396; culture of, 96, 104, 114, 207, 338–341, 357, 563, 800, 827, 1614, 2367; diagnosis of, 6, 95, 114, 339, 364, 553, 1590, 1598–9, 1611, 1613, 1872, 1980, 1992, 2250, 2367; dihydroxy-5-5′-dichlorophenylmethane, 2142; 'diodoquin' in relation to, 1575; effect of 1, 2, 5, 6-dibenzanthracene-9 : endosuccinnate, 1342; emetine hydrochloride in relation to, 1575; epidermal manifestations in, 805; factors affecting, 2393; heat resistance of, 1598; identification of, 1045; isolation of, from the bile, 111; blood, 822, 2390; bronchial secretions, 1304, 2390; canal roots, 1302; cerebrospinal fluid, 1052; faeces, 1301, 1310, 1879, 1991, 2367, 2384; lung tissue, 1906; mouth, 338, 346, 559, 1991; pharynx, 112; pleural fluid, 1906; pus, 1301; rectum, 559, 1880; skin, 1301;

sputum, 344, 346, 661, 816, 821, 1050, 1055, 1058, 1157, 1301, 1304, 1310, 1319, 1880, 1906, 2121, 2375, 2387; urine, 356, 1301, 1345, 2141, 2390; vaginal secretions, 106; isoniazid in relation to, 1061; Leiner's disease in relation to, 1326; levurin in relation to, 1288, 1314; moniliin in relation to, 814; morphology of, 95, 340, 1996, 2371; N-n-butyl-3-phenylsalicylamide, 2324; no connexion between pneumonia and, 813; not diagnosed during life, 551; occupational nature of, 1940; oidiomycin in relation to, 1290; oxytetracycline in relation to, 1880; pathogenesis of, 1728; pathogenicity of, 1591; penicillin in relation to, 100, 104, 337, 350, 810, 824, 1064, 1197, 1323, 1332, 1333, 1336, 1353, 1575, 1583, 2388; physiological study on, 2117; rapid identification of, 2368; recent information on, 1982, 2386; serology of, 958, 1299, 1870, 1992, 2111, 2376; spread of, in dust, 1057, 1058; from poultry plucking, 2404; streptomycin in relation to, 100, 104, 350, 810, 1055, 1310, 1333, 1336; stimulation of, by neomycin, 207; succinyl sulphathiazole in relation to, 1575; sulpha in relation to, 356, 1894; sulphadiazine in relation to, 1880; sulphonamides in relation to, 2391; summary of information on, 1312; survey of literature on, 928; technique for injecting against, 2392; terramycin in relation to, 98, 558, 810, 824, 1064, 1336, 2515c; therapy for, 2000; thrush napkin rashes in relation to, 1903; transmission of, to animal nails, 817; use of acid-resin, fatty, complex, 833; acrizane chloride, 1586; alkyl-arylsulphonate and soda, 1373; 'acijel', 1587; alkaryl sulphonate, 1646; antibiotics, 208, 342, 1334, 3569; antibiotics + 8-oxyquinoline, 1337; aromatic diamidines, 551; asterol, 1092; asterol dihydrochloride, 419, 1307; A.T. 10, 1311; aureomycin, 107, 557, 1313, 1584; *B*-naphthylthioglycolic acid, 934; bismuth camphor-carbamate, 1070; boric acid, 105; brilliant green, 1325, 1906; 'calciferol', 1311; calcium lactate, 1311; candicidin, 205, 1063, 1612; caprylic acid, 563, 833; Castellani's paint, 1339; *l*-chloramphenicol, 1070; chloro-2-naphthoquinone, 934; CMA, 37, 1604; conteben, 1584; Dakin's liquid, 1313; dibromosalicyl, 1584; dichloroxyquinaldine, 113; diparalene, 8; disodoquin, 551; elkosin, 357; formocresol, 1302; Geigy 20704 and 21772, 200; gentersal, 1611; gentian violet, 356, 553, 1052, 1054, 1306, 1353, 1575, 1587, 1621, 1622, 1901; 'gynben', 2394; hexachlorophen, 1584; hexylresorcin, 1584; hydrocortisone, 2134; 8-hydroxyquinoline, 934; hydroxystilbamidine, 704, 2392; iodide, 553, 1058; iodine, 1306, 1319; isopiropyl alcotila, 1092; leocillin, 821; lergigan, 8, 200; lisergan, 200; lobectomy, 1606; Lugol's solution, 356; malachite green, 1315; merzonin, 1898; methylparaben, 826; methyl-rosaniline chloride, 2393; monochlorphenal, 1302; multergan, 1334; mycelin, 210; mycostatin, 1343, 1352, 1594, 1615–1618, 1877, 1896, 2127, 2130–2133, 2140, 2391, 2396, 2406, 2408–9, 2410–11; neoteben, 1584; nicetin, 2325; 'omega', 1593; 8-oxyquinoline + antibiotics, 1337; para-aminobenzoic acid, 350; para-oxybenzoic alkyl esters, 2141; paraben, 1900, 1901, 2391; penicillin, 100, 107, 231, 350, 353, 821, 1313, 1325; pentamidine, 1907; phenergen, 200; 'plastibase', 2127; polymyxin B, 207, 572; potassium iodide, 350, 821, 1050, 1313, 1575, 1603, 1894; propionate jelly, 2134; propylparaben, 826; quartz lamp, 1898; S-oxyquinoline, 1070; salicylamide, 1584; serum bicarbonate, 1313; silicone, 2143; sodium caprylate, 1302, 1316, 1339; sodium propionate, 411; stilbamidine, 704, 2392; streptomycin, 352, 831; sulphamide, 1313; solusupronal, 1317; supronal, 231, 1584; surfen, 1584; targesin, 1584; terramycin, 551, 1900; thiosemicarbacide, 1584; thiosemicarbazone of enatraldehyde, 1584; titanium dioxide, 1903; trichomycin, 827, 1067, 2130; tyrosolvin, 1584; ultra-violet rays, 1339; undecylenic acid, 558, 833, 850; vitamin B_2, 1334; vitamin compound B, 1319; vitamin D, 1311; vitamin K5, 122; X-rays, 231; and zinc, 1898, against; use of in diagnosing cancer, 353; variation in, 357; vitamin B_2 deficiency in relation to, 1579, 1580; vitamin requirements for, 1048.

[*Candida albicans*] on the mouse; antibiotics in relation to, 1876, 1882; cortisone in relation to, 1619; experimental infection of, 1624, 1881, 1882; effect of cortisone on, 2144, 2381; dimethylamino-ethylbenzylaniline, 1062; hesperedin methyl chalcone, 2144; STH, 2144; X-rays, 2381; influence of sex on, 2351; morphological transformation of, 2118; producing lymphocytopenia, 2119; use of fungicide against, 209; mycostatin against, 1069; piromen and piromen+STH against, 1619; yeast cells to enhance virulence of, 804.

— — on poultry in Brazil, 1729.

— — on the rabbit, histogenesis of lesions in, 1305; aureomycin in relation to, 1883.

— — on the rat, 1349, 1350.

— — on the turkey in Great Britain, 116–17, 1074, 1721; Poland, 361; U.S.A., 455, 1625; aureomycin and terramycin in relation to faecal infection by, 347; copper sulphate in relation to, 2145; use of penotrane against, 116.

— *albo-marginata* on man in Germany, 2384.

— *brumptii* in soil in New Zealand, 1626.

— — on man in Germany, 1879; physiology of, 2115.

— *catenulata*, serology of, 820.

— — on man in Indo-China, 111, 112.

— — on the pig, isolation of, from faeces, 2384.

— *claussenii*, relation of *C. albicans* to, 2511.

— *guilliermondii*, 1886; culture of, 564; physiology of, 2115; serology of, 2107, 2108; use of brilliant green, malachite green, and methyl violet against, 1588.

— — on man in Austria, 822, 823; Brazil, 2397; France, 800; Germany, 1895, 2190; Indo-China, 111, 112; U.S.A., 1302; affecting nails, 1895; skin, 2190; vagina, 2397; culture of, 800; diagnosis of, 1598; isolation of, from bile, 111; canal root, 1302; pharynx, 112; use of iodide against, 2190.

— — on the shrimp in Gulf of Mexico, 118.

— — on the pig, isolation of, from faeces, 2384.

— *heveanensis* on man in Indo-China, 111, 112.

— *humicola*, use of a urease test for identification of, 2047.

— — on the pig, isolation of, from faeces, 2384.

— *krusei*, action of sodium azide on, 1071; antagonism of *Chaetomium globosum* to, 923; antibiotic action of *Nocardia madurae* on, 679; antibiotics in relation to, 355; antigenic structure of, 2107, 2108; culture of, 564; differentiation of, from *C. mycoderma*, 1886; metabolism, 2113; morphology of, 95, 1706; physiology of, 2115; serology of, 1600; vitamin requirements of, 2374; reducing sulphite

to sulphide, 561; use of brilliant green, malachite green, and methyl violet, 1588; and dichloroxyquinaldine, 2224, against; vitamin requirements for, 1048.
[*Candida krusei*] on cattle in Germany, 2384; Great Britain, 1721.
— — on the goat, isolation of, from faeces, 2384.
— — on man in Australia, 652; Brazil, 2397; France, 800, 835, 1571, 1572; Germany, 1879, 1895, 2384, 2385; Great Britain, 2121; Indo-China, 111, 112; U.S.A., 1302, 1307, 1353, 1578, 2124, 2135; affecting digestive tract, 1879; mouth, 2385; nails, 1895; skin, 835; tongue, 1353; vagina, 1571, 2135, 2397; antibiotics in relation to, 1572, 1879, 2124; culture of, 800; isolation of from bile, 111; canal root, 1302; faeces, 2384; pharynx, 1302; sputum, 2121; penicillin in relation to, 1353; use of asterol dihydrochloride against, 1307; gentian violet, 1353; and nystatin, 1343, against.
— — on the pig, isolation of, from faeces, 2384.
— *lipolytica* on cattle, isolation of, from faeces, 2384.
— *macedoniensis* on man in Indo-China, 111, 112; serology of, 1600.
— *mortifera* on man in U.S.A., 661, 1362.
— *mycoderma*, serology of, 1600; taxonomic status of, 1886.
— — on cattle and the dog, isolation of, from faeces, 2384.
— — on man in Germany, 2384.
— — on the pig, isolation of, from faeces, 2384.
— *parakrusei*, action of sodium azide on, 1071; antigenic structure of, 2107, 2108; culture of, 564; morphology of, 95, 1706; use of brilliant green, malachite green, and methyl violet against, 1589; use of nystatin against, 1343; vitamin requirements of, 2374.
— — on the horse, use of nitrofuran against, 2372.
— — on man in Australia, 652; Brazil, 2397; France, 800; Germany, 1902; U.S.A., 1344, 1623; affecting lung, 1344; nails, 1623; testicle, 1902; vagina, 2397; culture of, 800; diagnosis of, 1598; isolation of, from sputum, 1344; use of potassium iodide against, 1344.
— *parapsilosis* in soil in New Zealand, 1626.
— — on man in Austria, 448; Germany, 1879, 1895; Indo-China, 111, 112; Italy, 831; U.S.A., 449, 1578, 2124; antibiotics in relation to, 2124; isolation of from bile, 111; blood, 448; pharynx, 112; affecting the digestive tract, 1879; lung, 831, 1879; nails, 1895; use of streptomycin against, 831.
— — on the shrimp in Gulf of Mexico, 118; physiology of, 2115.
— *pelliculosa* on man in France, 800; Indo-China, 111, 112; Germany, 1879, 2190; culture of, 800; faeces, 1879; isolation of, from bile, 111; pharynx, 112; use of brilliant green, malachite green, and methyl violet, 1588; and X-rays, 2190, against.
— *pseudotropicalis*, 570; action of sodium azide on, 1071; antigenic structure of, 2107, 2108; culture of, 564; distinct from *C. albicans*, 570; morphology of, 95; physiology of, 2115; serology of, 820, 1600, 1601; vitamin requirements of, 1048, 2374.
— — on man in Brazil, 2397; Czechoslovakia, 2522; France, 800, 1585, 1594; Germany, 1581, 1582, 2384, 2385; Switzerland, 806; U.S.A., 1578, 2124; affecting lung, 806; mouth, 2385; vagina, 2397; causing pneumopathy, 1585; culture of, 800; diagnosis of, 1598; isolation of, from faeces, 2384; antibiotics in relation to, 806, 2124; use of mycostatin, 1343, 1594; and potassium iodide, 1585, against.
[*Candida*] *pseudotumoralis* on the dog in France, 285.
— *pulcherrima* on man in Japan, 2403.
— *robusta*, serology of, 820.
— — on man in Indo-China, 111, 112.
— *rugosa* on man in Indo-China, 112.
— spp. sensitivity tests on, 2373.
— *stellatoidea*, antigenic structure of, 2107, 2108; culture of, 114, 564, 2116; morphology of, 95; physiology of, 2115; relationship of, to *C. albicans*, 570; serology of, 1046, 1600, 1601; status of, 2369; use of flavomycin against, 921.
— — on man in Australia, 652; Brazil, 2397; Italy, 1596, 1597; U.S.A., 1884; affecting the lungs, 1596, 1597; vagina, 2397; blood protein in relationship to, 1597; control by lobectomy, 1596; diagnosis of, 1598; identification with *C. albicans*, 1884.
— — on mouse, morphological transformation of, 2118.
— *tenuis*, serology of, 820.
— *tropicalis*, antibiotic action of *Streptomyces madurae* on, 140; antibiotics in relation to, 1068; antigenic structure of, 2107, 2108; culture of, 564; electrophoretic study on antigens of, 1899; diagnosis of, 1598; electron microscopical study on, 1909; micro-assay of antifungal properties of steroid hormones against, 836; morphological study on, 95, 1706; *Pneumocystis carinii* in relation to, 2370; reducing sulphite to sulphide, 561; symbiosis of, with *Escherichia coli*, *Lactobacillus acidophilus*, *Staphylococcus aureus*, and *S. albus*, 101; physiology of, 2115; serology of, 1600, 1601; use of brilliant green, malachite green, and methyl violet, 1588; endomycin, 1891; mycolutein, 1997; and nystatin, 1343, against.
— — on the horse, use of nitrofuran against, 2372.
— — on man in Australia, 652; Chile, 106; Finland, 130; France, 800, 1048, 1335, 1571; French Guiana, 1320; French Guinea, 110; Germany, 1879, 2385; Great Britain, 2121; Indo-China, 112; U.S.A., 811, 1578, 2124; affecting the digestive tract, 1879; lungs, 110, 1320, 1335, 1879, 1994; mouth, 2385; skin, 130; vagina, 106, 1571; antibiotics in relation to, 811, 1335, 2124; culture of, 800; isolation of, from pharynx, 112; sputum, 2121; use of Lugol's iodine, 1320; potassium iodide, 110; and vitamin K5, 122, against; vitamin requirements of, 1048.
— *utilis* on the elephant, isolation of, from faeces, 2384; serology of, 1600.
— *zeylanoides*, 2047.
— — on man in Germany, 2384; Indo-China, 111, 112.
Candidiasis, see Moniliasis.
Capercaillie, moniliasis of, 2139.
Caprylic acid, use of, against *Candida albicans*, 563, 833; *Histoplasma capsulatum*, 2002; *Paracoccidioides immitis*, 2002; tinea, 1980; *Trichophyton rubrum*, 615.
Carbolic acid, use of, against mycoses, 2202.
Carbomycin, use of, against *Actinomyces bovis*, 1459.
Carbon dioxide snow, use of, against *Blastomyces dermatitidis*, 1484; *Phialophora compacta*, 2351.
Carnosini (β-alanyl-histidine) in relation to nutrition of *Trichophyton rosaceum*, 610.

Castellani's paint, use of, against *Candida albicans*, 1339; *Microsporum audouini*, 855; *Trichophyton rubrum*, 2295.
Cat, aspergillosis of the, in U.S.A., 2358.
—, *Aspergillus terreus* on, in Great Britain, 2162.
—, *Cephalosporium potronii* on the, in Holland, 186.
—, *Cryptococcus neoformans* on the, in U.S.A., (?)47, 500, (?)1508.
—, *Histoplasma capsulatum* on the, in U.S.A., 1041, 1271, 1559.
—, *Microsporum canis* on the, in Chile, 1936; France, 148; Great Britain, 604, 1382, 1721, 2162, 2168, 2169; Netherlands, 2173; Scandinavia, 2172; U.S.A., 377, 651, 1929, 2171, 2292, 2328; experimental infection of, study on, 1929; infecting man, 651, 1382, 2168, 2169, 2172, 2173, 2292; pathogen of culture in soil, 148.
—, — *gypseum* on the, in Cuba, 1106; Great Britain, 2333.
—, — *sapporense* on the, in Japan, 1396.
—, nocardiosis of the, in Turkey, 241.
—, *Sporotrichum schencki* on the, in U.S.A., 650.
—, *Trichophyton mentagrophytes* on, in Cuba, 1106; U.S.A., 2292, 2334.
Cattle, *Absidia corymbifera* and *A. ramosa* on, in Great Britain, 1721.
—, actinobacillosis of, 239, 651.
—, *Actinomyces bovis* on, in (?)Italy, 19; U.S.A., 238, 471, 1189; associated with orchitis, 1189; isolation of, from semen, 238; use of maggot therapy against, 471.
—, actinomycosis of, in Switzerland, 239; U.S.A., 651.
—, aspergillosis of, in Italy, 2029.
—, *Aspergillus chevalieri* and *A. clavatus* toxic to, 1192, 1193.
—, — *fumigatus* causing abortion in, 248, 1721, 2024.
—, — *tamarii* and *A. flavus-oryzae* toxic to, 1193.
—, *Candida albicans* on, isolation of, from faeces, 2384.
—, — *krusei* on, in Great Britain, 1721; isolation of, from faeces, 2384.
—, — *lipolytica* and *C. mycoderma* on, isolation of, from faeces, 2384.
—, *Coccidioides immitis* on, in U.S.A., 651, 1011, 1159.
—, *Corynebacterium israeli* on, taxonomy of, 239.
—, *Cryptococcus neoformans* on, 2046; in Great Britain, 1721; U.S.A., 43, 44, 276, 445, 651, 1159; culture of, 445; mastitis caused by, 2437; mutation in, 276; pathological study on, 45; strains of, 276.
—, *Histoplasma capsulatum* on, in U.S.A., 445, 651, 788, 1291.
—, mastitis of, fungi in relation to, in Great Britain, 1721; penicillin in relation to, in England, 115; yeasts in relation to, in U.S.A., 1354.
—, mucormycosis of, in U.S.A., 577.
—, *Nocardia asteroides* on, 1468; in Australia, 1471; Italy, 2416.
—, *Penicillium* on, (?) causing sterility, 28.
— ringworm, in Great Britain, 2168–2170, 2329; spread of to man, 2168–2170; use of hexadecamethylene-1 : 16-bis (isoquinolinium chloride) against, 2331.
—, *Rhinosporidium seeberi* on, in Argentina, 2573.
—, Senkobo disease of, in Northern and Southern Rhodesia, 2267; comparison of, with streptothricosis, 2268.
[Cattle] streptothricosis of, in French W. Africa, 2268; Nigeria, 2004; caused by aerobic actinomycetes, 2004; comparison of, with Senkobo disease, 2268.
—, *Streptothrix bovis* on, in French West Africa, 2268; S. Africa, 2267; comparison of, with *Actinomyces dermatonomus*, 2266.
—, *Trichophyton mentagrophytes* on, in Great Britain, 1417, 2335.
—, — *verrucosum* on, in Canada, 1957; Germany, 2183; Great Britain, 1721, 2330; U.S.A., 409, 1129, 2292, 2328; culture of, 409; infecting man, 911, 1129, 1411, 1957, 2292.
—, — *verrucosum* var. *discoides* on, in Canada, 909; Czechoslovakia, 2221; Great Britain, 172, 1417, 1956, 2169; Northern Ireland, 1956; culture of, 2221; problems in treatment of, 1958; transmission of, to man, 909, 1109, 1417, 1956, 2169.
—, *Trichosporon cutaneum* on, isolation of, from faeces, 2384.
—, yeasts in, in relation to mastitis of, 1354.
'Cave disease' of man, see *Histoplasma capsulatum* on man.
Centre of Human and Comparative Mycology, Pavia-Milan, report of the, 1.
Cephalosporium on man in Germany, 431.
— *acremonium* in relation to *C. granulomatis*, 94; effect of merfen on, 1668.
— *falciforme* on man in Brazil, 2156; Uruguay, 1911; a valid species, 94.
— *granulomatis* in relation to *C. acremonium*, 94.
— *potronii* on the cat in Holland, 186.
— *recifei* on man in Brazil, 2156; a valid species, 94.
Cetyltrimethylammonium bromide, use of, against *Trichophyton interdigitale*, 1684.
Chaetomium globosum, action of actamer on, 871; antagonism of, to dermatophytes, etc., 923.
Cheetah, *Cryptococcus neoformans* on the, 277.
Chelidonium majus sap, effect of, on dermatophytes, 1680, 1681.
Chenopodium oil, use of, against *Candida albicans*, 1576.
Chinchilla, *Microsporum canis* on the, in U.S.A., 2328.
—, *Trichophyton granulosum* on, in Canada, 1110.
—, — *mentagrophytes* on, in U.S.A., 1947, 2292, 2328.
Chinosol, use of, against *Candida albicans*, 1340.
Chloral hydrale, use of, against *Microsporum canis* and *M. audouini*, 602.
Chloramphenicol, 12, 201; in relation to *Aspergillus fumigatus*, 242; *Candida albicans*, 98, 558, 559, 1333, 2112; *C. krusei*, 355; *C. tropicalis*, 1335; moniliasis, 242, 808; *Saccharomyces cerevisiae*, 355; use of, against *Actinomyces israeli*, 11; *Candida albicans*, 807, 1070; in culturing dermatophytes and yeasts, 1146; in isolating *Candida*, 1301.
— derivation, toxicity of, to *Candida albicans*, 1066.
Chlorobutanol, use of, against *Cryptococcus neoformans* on man, 1505.
Chlorocyclizine, *see* Diparalene.
Chlorodinitrobenzol, sensitization of guinea-pigs by, in relation to dermatophyte infection, 1952.
Chloromycetin, effect of, on fungicides, 886; use of, against *Actinomyces israeli*, 673, 677; *Candida albicans*, 1573; mucormycosis, 1075.
Chloromycin, in relation to *Candida albicans*, 1332.
Chloro-2-naphthoquinone, as a fungicide, 934.
Chlorophenoxyacetic acid, H-ion conc. in relation to toxicity of, to *Trichophyton*, 638.

Chlorophyllin, use of, with sodium propionate, 411.
5-Chloro-salicylanilide, use of, against *Microsporum audouini*, 375.
Chlorquinaldol, use of, as an antimycotic, 1966.
Chromoblastomycosis of animals, histopathology of, in Brazil, 1516, 1806.
— of man in Brazil, 288, 1806, 2354; Costa Rica, 728; Honduras, 2501; Queensland, 5758; El Salvador, 2502; South America, 440; Uruguay, 1807; U.S.A., 286, 506, 724, 2249; Venezuela, 722; affecting arm, 58; buttocks, 722; face, 722; hand, 58; limbs, 57, 722, 2354; wrist, 286, 506; histopathology of, 1516, 1806; timber in relation to, 57, 58, 506; use of iodate, 2354; potassium iodide, 57, 728; and X-rays, 57, against.
Chromomycosis of nervous system of man in Brazil, 723.
Cialit, use of, against *Candida albicans*, 1340.
Cibazol, use of, against *Torulopsis inconspicua*, 756.
Cinnabar-sulphur, use of, against *Trichophyton verrucosum*, 896.
Cinnamic acid, use of, against *Coccidioides immitis*, 1817.
Cladosporium carrionii on man in Australia, 1237; S. Africa, 1237; Venezuela, 1237, 2248; differentiation of, from *C. trichoides*, 1237.
— *fulvum*, allergic reaction of man to, in Denmark, 1775.
— *gougerotii*, *Sporotrichum gougerotii* renamed, 1977.
— *herbarum* in the air in Great Britain, 251, 254.
— *mansoni* on man, 2341.
— *trichoides* on man in Belgium, 1763; Belgian Congo, 931, 2503; France, 1640; U.S.A., 27, (?) 2154; Venezuela, 2248; affecting the brain, 27, 931, 1237, 1640, 1763, 2154, 2248; lung, 2248; spine, 1763; differentiation of, from *C. carrionii*, 1237.
— *werneckii* on man in Peru, 2342; U.S.A., 2293, 2342; (?) infection from grain, 2342.
Claviceps paspali and *C. purpurea* poisoning animals in U.S.S.R., 2245.
Clovecil, use of, against dermatophytes, 152.
CMA37, use of, against *Candida albicans*, 1604.
Coal tar, use of, against *Trichophyton mentagrophytes*, 2278.
Coccidioides immitis, cell wall composition of, 732; comparative study of *Haplosporium parvum* and, 1813; cortisone in relation to, 515; culture of, 445, 997, 1811, 2090; in hen's eggs, 63, 292; cytological study of, 2415; distribution of radioactive iodine in experimental infection by, 1529; effect of isonicotinic acid hydrazide on, 662; *Escherichia coli* inhibiting, 446; histochemical study on spherule of, 290; method of producing spherules of, in culture, 1525; sporulation of, in culture, 1524; studies on life cycle of, 1244; survival of, under controlled conditions of humidity and temperature, 2062; survival of, in passage through digestive tract of mice, 1003; taxonomic position of, 291; technique for demonstrating, 1522; toxicity of filipin to, 1430; use of blocked steroids, 447; cod-liver oil, 1730; diethylstilboestrol, 516; fluvomycin, 921; fungicidin, 738; hydroxystilbamidine, 1248; mycostatin, 1523, 2253; mycoticin, 922; pentamidine, 454; propamidine, 454; 5-nitro-2-furfuryl-3-chloropropionate, 1823; and stilbamidine, 454, against.
— — in soil in U.S.A., 508, 1432, 1722, 1822, 2068; not found in Argentina, 2529.
[*Coccidioides immitis*] on animals, 1250, 1432; antibiotics in relation to, 98; in U.S.A., 1159; recent information on, 1518.
— — on the burro in U.S.A., 651.
— — on cattle in U.S.A., 651, 1011, 1159.
— — on the dog in U.S.A., 508, 651, 744, 1009, 1249, 1526, 1824, 1987, 2068, 2069, 2423–2425; infection of, from soil, 2068; review of, 1986; study on, 2425.
— — on the hamster, pathogenicity of, 55.
— — on man, 205; in America, 740; Argentina, 69, 196, 740, 741, 994–996; Belgian Congo, (?) 509, (?) 510, 1285; Brazil, 291; Canada, 993; Costa Rica, 739; France, 1995; Germany, 930; Holland, 1821; India, 782, 2067; Italy, 7082; Mexico, 302, 1007, 1008, 1243, 1528; N. America, 1140; Norway, 2420; S. America, 440, 1140; Spain, 198; U.S.A., 64–68, 197, 290, 293–297, 299, 508, 512–514, 661, 733–737, 742–3, 772, 920, 927, 929, 991–2, 1001–2, 1004–1006, 1011, 1238–1243, 1245–1247, 1438–9, 1482, 1519–1523, 1527, 1531–2, 1808–1810, 1816–1820, 1837, 1980, 1982, 1993, 2061, 2064–2066, 2070, 2233, 2249–50, 2412–2414, 2417–2419, 2421, 2422, 2526, 2527; Venezuela, 2248; account of, 1001, 1533; actidione in relation to, 514; affecting the abdomen, 2067; adrenal glands, 67; back, 2067; bone, 297, 927, 1531, 1819, 1820; bone marrow, 2065; brain, 2064; chest, 2067; epiglottis, 736; feet, 928, 2067; intestines, 994; knee, 991, 1528; larynx, 1816; liver, 741, 994, 998; lungs, 7, 66, 68, 293, 295, 512, 653, 737, 741, 772, 782, 929, 930, 958, 992, 994, 1002, 1190, 1239, 1241–2, 1245–6, 1439, 1520, 1522, 1808, 1818, 1821, 1993–4, 2000, 2061, 2064–5, 2233, 2412, 2419–20; meninges, 1006, 2412; muscles, 993; nervous system, 742, 1243, 1532; skin, 513, 741, 994–5, 1240, 1816, 1940, 2066, 2249, 2422; spleen, 741, 994, 1239; thighs, 2067; toe, 741, 994; viscera, 198; associated with tuberculosis, 294, 295; mycosis fungoides, 2417; atypical tissue forms of, 2414; coccidioidin testing for, 69, 73, 301–2, 509–10, 512, 518, 737, 739–40, 772, 781–2, 787, 995, 1239, 1262, 1285, 1810, 1837, 2087, 2528, 2542; comparison of, with *Blastomyces dermatitidis*, *Histoplasma capsulatum*, and tuberculosis, 264, 731; culture of, 66, 291, 296; danger of inadequately sealed slides, 998; developmental stages of, 64; diagnosis of, 7, 653, 742, 1190, 1242, 1810, 1818; electrocardiogram in relation to, 1809; factors affecting, 1001, 1980; (?) grain as source of infection, 2082; histochemical study on, 290; history of, 289; of investigation on, 517; in relation to granulomatous disease study, 511; pericarditis, 512; pulmonary residuals, 2421, 2526, 2527; isolation of, from bronchial washings, 1810, 2061; empyema fluid, 1810; gastric aspirates, 2061; knee sinus, 661; lumbar abscess, 990; pus, 739, 1810; spinal fluid, 2070; sputum, 512, 739, 1522, 1810, 2061, 2082; laboratory acquired infection of, 65, 66, 289, 658, 2066; membrane of, 194; method of staining, 920, 2233; mycelial forms of, 1522; not occurring in Uruguay, 1076; occupation in relation to, 443, 1000, 1940; paracoccidioidin in relation to, 69; parasitism in, 1143; pathogenesis of, 1728; possible immunization against, 999; pregnancy complicated by, 2064; primary infection of, in skin, 2249; recent information on, 1517, 1518, 1982; renamed *Aleurisma immitis*, 291; review of, 289; roentgen study

on, 1245, 1808; saprophytism in relation to epidemiology of, 1141–2; serology of, 958, 1542, 1811; spherule formation in, 2413; streptomycin in relation to, 100; study on, 996; surgical aid in, 1519, 1520; survey of literature on, 507, 928; therapy against, 2000; (?) transmission of, by air-borne spores, 1482; dust, 1011; hemp, 990; tuberculosis in relation to, 1438; use of actidione, 514; aureomycin, 1006; androgen, 1817; cinnamic acid, 1820; coccidioidin, 739; cortisone, 2422; diethylstilbestrol, 1247; dihydroxystilbamidine, 1816; ethyl vanillate, 743, 1004, 1007, 1008, 1238, 1521; fungicidin, 300; Geigy 20704 & 21772, 200; hydroxychloroquin, 1008; 2-hydroxystilbamidine, 1527; iproniazid, 296; isoniazid, 296; isonicotinic hydrazide, 2418; Libby 01780, 1004; Merrell 354 R-285a 063002, 200; oestrogen, 1817; oil of sassafras, 1820; Parke Davis CMA37, 1004; pentachlorophenyl cellosolve, 1004; prodigiosin, 733, 734; promizole, 1001; propylene glycol, 300; pyrrolidino proprionyl phenothiazine, 1004; resection, 929; stilbamidine, 294, 1006, 1040; streptomycin, 294; thorazine, 1004; trypsin, 1817; tyrothricin, 100; and Wellcome preparations 48–166 & 48–239, 1004, against.

[*Coccidioides immitis*] on the mouse; vaccination against, 2063; variation in, 508; viability of, 998; virulence of, 298, 1814, 1815, 2416.

— — on the rabbit in U.S.A., 1530.

— — on rodents in U.S.A., 651.

— — on sheep in U.S.A., 651, 1010.

Cod liver oil, fungistatic action of, 1730.

Colchicin, effect of, on mycoses, 1437; in relation to *Cryptococcus neoformans*, *Torula asteroides*, and *Nocardia leishmani*, 1148.

Collodion, use of, against *Microsporum canis*, 1382.

Compound 77, use of, against *Cryptococcus neoformans*, 269.

Conteben, use of, against *Candida albicans*, 1584.

Contramine, use of, against *Cryptococcus neoformans*, 2429.

Copper nitrate, use of, against *Trichophyton concentricum* and *T. rubrum*, 136.

Copper sulphate, effect of, on wool processing. 240; use of, against *Candida albicans*, 2145; *Microsporum audouini*, 381, 602; *M. canis*, 602.

Copper undecylenate, use of, against onychomycosis, 1362.

Coprinus micaceus on animals in U.S.A., 1250.

Cortisone inducing aspergillosis of the rat, 2360; in relation to *Aspergillus*, 660; *Blastomyces dermatitidis*, 660; *Candida albicans*, 566, 660, 1073, 1332, 1336, 1619, 1877, 1878, 2254, 2381, 2382, 2396; *C. tropicalis*, 836; *Coccidioides immitis*, 515; *Cryptococcus neoformans*, 497, 660, 759, 980; *Histoplasma capsulatum*, 331, 547, 780; *Penicillium*, 660; *Phialophora pedrosoi*, 759; use of, against *H. capsulatum*, 1280, 1569, 2454; *Paracoccidioides brasiliensis*, 282; *Candida albicans*, 2144; *Coccidioides immitis*, 2422; *Trichophyton quinckeanum*, 168, 169.

— acetate in relation to *Blastomyces dermatitidis*, 49.

Corynebacterium acnes and *C. avidum*, taxonomy of, 666.

— *israeli*, see *Actinomyces israeli*.

— *liquefaciens*, taxonomy of, 666.

Creosote, use of, against moulds, 257.

Cresatin, use of, against *Allescheria boydii*, 1632; aspergillosis, 2028.

Cresol, use of, against dermatophytes, 1426.

Cresol soap, use of, against *Trichophyton interdigitale*, 2274.

Criniton, use of, against *Microsporum gypseum*, *Trichophyton interdigitale*, and *T. sabouraudi*, 607.

Cryptococcus in soil in Israel, 2041.

— on the hamster, 2042.

— on man in Israel, 2041.

— on the rat in Israel, 2041.

—, taxonomy of, 42, 1216, 2040.

— *albidus* on man in Holland, 1156.

— *farciminosus*, see *Histoplasma farciminosum*.

— *glabratus*, experimental pathogenic action of, 502; strains of, 501; in Uruguay, 501; U.S.A., 501.

— *guttulatus* the type species of *Saccharomycopsis*, 42.

— *hominis*, see *C. neoformans*.

— *laurentii* on man in Holland, 1156.

— *luteolus* on man in Hungary, 2051.

(?)— *mirandei* on the horse, affecting the eye, in Senegal, 2436.

— *molishianus* on the fowl, aureomycin in relation to, 1347.

— *neoformans*, 2041; antagonism of *Chaetomium globosum* to, 923; antibiotic action of *Nocardia madurae* on, 679; antigenic composition of, 1218; ascus formation in, 1215; complement fixing antigen from, 1506; capsular polysaccharide of, 749; colchicin in relation to, 1148; cortisone in relation to, 660; culture of, 38, 1983, 2090; extradiol in relation to, 932; *Lipomyces starkeyi* identical with, 1215; method of staining, 919; not considered to be asporogenous yeast, 493; saprophytism in relation to epidemiology of, 1141; serology of, 1218; toxicity of filipin to, 1430; use of betaine tetradecylamide chloride, 2050; chlorquinaldal, 1966; colchicin, 1437; dichloroxyquinaldine, 2224; di-paralene, 555; endomycin, 1891; mycostatin, 2253; nitrostyrenes, 1160; pentamidine, 453; 454; phenamidine, 453; propamidine, 453; stibonic acid RO2-3094, 981; THF, 1731; and trichothecin, 1433, against.

— — in soil in Hawaii, 1722; Nigeria, 1722; U.S.A., 1722.

— — on animals in U.S.A., 1497.

— — on the cat in U.S.A., (?) 47, 500, (?) 1508.

— — on cattle, 2046; in Great Britain, 1721; U.S.A., 43, 44, 276, 445, 651, 1159; culture of, 445; inhibition of, by ethyl alcohol, ethyl vanillate, hydrogen peroxide, metaben, neomycin, paraben, roccal, and sodium hydroxide, 1507; mastitis caused by, 2437; mutation in, 276; strains of, 276.

— — on the cheetah, 277.

— — on the dog in Canada, 1229; U.S.A., 46, 1215, (?) 1507, 1987; review of, 1986.

— — on the horse, 277; (?) in U.S.A., 1508.

— — on laboratory animals, 752.

— — on man, 1139, 1994; in Argentina, 196, 275, 972, 2044, 2534; Australia, 1219, 2429; Austria, 1219; Belgian Congo, 753–755, 978, 1137; Belgium, 1225; (?) 2048; Brazil, 745, 973, 2530, 2535; Canada, 40, 273, 497, 656, 1138, 1217; China, 1801, 2045; Czechoslovakia, 1500 (?) 1799; England, 35, 494, 1227, 1793–4, 1796; France, 971, 1499, 1995, 2052; Germany, 93, 1502; Hawaii, 762; Holland, 495, 731; Hungary, 1733, 1789, 1800, 2536; India, 1228; Indonesia, 970; Italy, 760; Japan, 499; New Zealand, 2428; N. America,

1140; Palestine, 2042; Paraguay, 2533; Portugal, 1498; Puerto Rico, 2049; Queensland, 2431; (?) S. Africa, 1154; S. America, 440; Spain, 198, 270, 440, 757, 758; Sweden, 496; Switzerland, 2432; Turkey, 979; U.S.A., 31–34, 39, 41, 197, 261, 266, 268–9, 272, 274, 276, 498, 661, 742, 746–7, 927, 974, 977, 980, 1014, 1220–1223, 1226, 1435, 1438–9, 1503–1505, 1783, 1791–2, 1797–8, 1803, 1982, 1994, 1996, 2050, 2233, 2250, 2402, 2430, 2433–4, 2435, 2531, 2532; Venezuela, 2248; account of, 975; affecting adrenal medulla, 499; aorta, 274; bone, 927, 1219, 1503; bone tissue, 972; central nervous system, 31–32, 39, 269, 270, 272–3, 494–496, 499, 731, 742, 753–755, 760, 972–974, 977–8, 1217, 1220–1222, 1227–8, 1498–9, 1502–1504, 1792, 1794–1796, 1798, 1800–1, 2044–5, 2048–9, 2428–2433; eye, 1222; face, 496, 745; feet, 979; intestines, 731; kidneys, 496, 2432; liver, 494, 496, 499, 1996; lungs, 2, 7, 35, 266, 494–499, 653, 656, 731, 757–8, 930, 958, 971, 973, 977–8, 980, 1014, 1217, 1223, 1225, 1227, 1439, 1503, 1783, 1792, 1794–5, 1798, 1993, 1994, 2000, 2045, 2050, 2248, 2250, 2429, 2431, 2434; lymph nodes, 494, 496, 1502–3, 1793; mediastinum, 2432; nasopharynx, 1505; prostate, 33, 2432; scalp, 745; skin, 972, 1219, 1435, 2052; spleen, 494, 496; thyroid gland, 2432; uvula, 1505; vertebrae, 274; viscera, 198; actinomycin in relation to, 2044; antibiotics in relation to, 497–8, 760, 826, 1794, 1799; associated with *Histoplasma capsulatum*, 972; Hodgkin's disease, 494, 498, 972, 1503, 1732, 1791–1794, 2044; reticuloses, 1732, 1792, 1797; tuberculosis, 1732, 2433; aureomycin hydrochloride in relation to, 109; biological study on, 1802; capsule formation by, 275; chemical test for, 2426; comparison of, with *Blastomyces dermatitidis*, 497; cortisone in relation to, 497, 980; culture of, 35, 196, 272, 275; demonstration of capsule of, 976, 1800; diagnosis of, 742, 2233, 2250; differentiation between starch bodies and, 1224; effect of isonicotinic acid hydrozide on, 662; expulsion forms of, 754; isolation of, from ascitic fluid, 1794; blood, 661, 2432; cerebro-spinal fluid, 35, 272, 496, 498–9, 661, 760, 1227, 1500, 1504, 1791, 1796, 1801, 2048; faeces, 745; gastric washings, 496; sputum, 35, 661, 745, 980; suboccipital fluid, 971; urine, 661, 2432; membrane of, 194; monograph on, 1790; morphological study on, 1996; pathogenesis of, 1728; pigeons' nests in relation to, 1803; review of literature on, 268, 1982, 2043, 2044; serology of, 958; study on capsules of, 36, 37; tissue changes in, 1797; tuberculosis in relation to, 1438; up-to-date therapy for, 2000; use of actidione, 269, 971, 1149, 1504, 1796, 2429; adrenocorticotropical hormone, 747; antibiotic 3569, 208; bismuth, 1505; bismuth salicylate in oil, 1505; candicidin, 205; chlorobutanol, 1505; compound 77, 269; contramine, 2429; diparalene, 410; distilbene, 2052; elkosin, 2048; ethyl vanillate, 1220, 2433; gentian violet, 1505; hexylresorcinol, 1505; hydroxystilbamidine, 704, 1226; iodine, 1219; methylparaben, 826; moldin, 206; P. 968, 269; penicillin, 272, 747, 757, 1227, 1789; phaeofacin, 206; polymyxin B, 269; potassium iodide, 1789; propamidine, 704; propylparaben, 826; rimocidin, 269; stilbamidine, 260, 704, 747; streptomycin, 760, 1227; sulphadiazine, 747, 970, 1217; sulphonamide, 745, 1227, 1789; syntestrim, 1789; terramycin, 499; thiolutin, 269; thiosemicarbazones, 271; U-0579, 269; and X-rays, 1219, 1789, against.

[*Cryptococcus neoformans*] on monkeys, experimental infection of, 1805.

— — on the mouse, use of silver salts against, 2053; stilbamidine against, 750; effect of, on susceptibility to encephalo-mycocarditis virus, 751.

— — on the rabbit, histological study on, 2427.

— — on the rat, cortisone in relation to, 759; use of D. 25 against, 1804.

— — var. *innocuus*, ascus formation in, 1215.

— — — on man in U.S.A., 34.

— — var. *uniguttulatus* on man in Germany, 1895.

— *pararoseus*, use of tyrothricin against, 100.

Ctenomyces, a genus of Dermatophytes, 139.

— *serratus*, antibiotic effect of *Oospora virescens* on, 825.

Culture collection at Institute of Hygiene, Montevideo, list of the, 193.

Cupricinin, use of, against *Trichophyton interdigitale*, 888.

Cushing's disease of man associated with dermatophytosis in Holland, 1951.

Cyanide, effect of, on metabolism of *Microsporum*, 601.

Cycloheximide, see actidione.

D. 25, see 2,2, ′-dioxy-5,5′-dichlorodiphenylsulphide.

Dakin's liquid, use of, against *Candida albicans*, 1313.

DDS, use of, against *Nocardia brasiliensis*, 466.

Debaryomyces kloeckeri, 2047; on man in Norway, 1295.

— *matruchoti* on man in Germany, 982.

— *neoformans*, see *Cryptococcus neoformans*.

Decupryl, use of, against *Trichophyton tonsurans*, 899.

Deer, *Actinomyces bovis* on, in U.S.A., 23.

—, *Aspergillus fumigatus* on, in Switzerland, 2027.

—, mycoses of the, in Switzerland, 2027.

Delacroixia, taxonomy of, 2473.

Delegol, use of, against *Trichophyton interdigitale*, 2274.

Dendrochium toxicum, toxicity of, to the horse, 2245.

Dendrocygna viduata, *Rhinosporidium seeberi* on, in Belgian Congo, 2464.

Dermatitis herpetiformis of man, *Trichophyton rubrum* infection simulating, 405.

Dermatomycoses, see Dermatophytoses.

Dermatophytes, animal, transmission of, to man, 1650.

—, antagonism of, to some fungi, 894; biological cycle of, 146; biological study on, 2180; chemical composition of, 383; classification of, 139, 1367–8, 1960; culture of, 129, 401, 402–3, 408, 1146, 1366, 1675, 2183; effect of penicillin and streptomycin on, 898; factors affecting growth and sporulation of, 1645; herbarium specimens of, 843; histological study on, 2279; immunological studies on, 1950; inhibition of, by *B*-propiolactone, 875; nomenclature of, 363; nutritional studies on, 127, 873, 369–70; pathogenicity of, 146; preservation of, in culture, 1941; reciprocal effect of various strains of, 2185; review of, 2163–2165; spectroscopic studies on, 857; storage of, in soil, 578; technique for determining, 659, 2275; for isolating, 2276; for preparing suspensions of, 1088; for stain-

ing, 848; use of antifungal agents, 1943–4, 1964; antihistamines, 410; asterol, 878; cresol, 1426; ethylene bis-dithiocarbamate esters, 1364; N-butyl-3-phenylsalicylamide, 2319; and quaternary ammonium, 1426, against.
Dermatophytids, 134, 612.
Dermatophytoses of animals, recent information on, 1651.
— of man, 439, 1139; in Argentina, 1925; Austria, 579, 1373, 1646; Belgian Congo, 1137; Brazil, 864; Ecuador, 1675; Finland, 130, 892; France, 581, 2163; French Army, 1426; Germany, 424, 585, 587, 659, 672, 849, 903, 1369, 1372, 1388–9, 1647, 2166, 2199, 2200, 2213; Great Britain, 2198; Holland, 1951; Hungary, 2302; Italy, 1380; Japan, 887; Mexico, 1657; Sardinia, 406; S. Africa, 1154; S. America, 440; Spain, 1368, 1413; U.S.A., 128, 639, 902, 1942, 2324, 2327; U.S.S.R., 382; affecting feet, 580, 587, 892, 902, 1388, 2199, 2302; hands, 580; legs, 585; nails, 2324; skin, 849, 2324; age of miners in relation to, 1372; association of, with eczema, 579; Cushing's disease, 1951; adrenocortical hormones in relation to, 1951; clinical aspects of, 1380; control, 408, 413, 414; culture of, 590; difficulty of testing compounds against, 933; diagnosis of, 1369, 2200; electron microscopic studies on, 584; factors predisposing to, 408; mixed infections in, 2217; modern therapy for, 1086, 1657; occupational nature of, 2302; penicillin in relation to, 128; production of antibodies of, 2175; study on treatment of, 1641; technique for detecting, 365; trichophytin in relation to, 632, 2280; use of alkanyl sulphonate, 1646; alkyl-arylsulphonate (and soda), 1373; 'antiphytin', 587; 'antiphytin forte', 587; benzathiozole derivatives, 887; benzoderm, 903; bradex-bioform, 1388–9; diphenylpyraline, 582; fatty acids, 1648; finof, 2327; formaldehyde as a shoe disinfectant, 587; fungichthol, 849; 8-hydroxyquinoline, 590; hyphocid, 418; myxal, 1647; N-n-butyl-3-phenylsalicylamide, 2324; novex, 1647; oxine with metal salts, 633; P-594, 639; phebrocon, 424; 3.554 R.P., 581; scheroson-F. compositum, 2213; thioformol, 587; and undecylenic acid, 414, against.
Desenex 850, use of, against *Trichophyton rubrum*, 161; *T. tonsurans*, 899.
Desoxycorticosterone, 836.
Detergents, use of, for clearing hair and skin scales, 2277.
Dextrose, use of, against *Trichophyton rubrum*, 2311.
Diacetyl 2′2-dioxy-5′5-dichlorodiphenyl sulphide, use of, against *Allescheria boydii*, 1912.
Diamidine, use of, against *Histoplasma capsulatum*, 81.
— derivatives, sensitivity of *Blastomyces dermatitidis* to, 1489.
Diamino-diphenyl-sulphone, use of, against *Madurella grisea*, 1915; *Nocardia brasiliensis*, 467, 2257; *Paracoccidioides brasiliensis*, 1509; *Streptomyces madurae*, 2257.
Diatrine, use of, against dermatophytes, 410.
Diazil, use of, against *Actinomyces israeli*, 2259.
Diazine, use of, against *Actinomyces israeli*, 1455.
1, 2, 5, 6-dibenzanthracene-9:10-endosuccinate, effect of, on *Candida albicans*, 1342.
5, 7-dibromo-8-oxyquinoline, toxicity of, to *Histoplasma capsulatum* and *Paracoccioides brasiliensis*, 2002.
Dibromopropamidine isethionate, use of, against *Microsporum canis*, 160.
Dibromosalicyl, use of, against *Candida albicans*, 1584, 1714.
Dibrosal, use of, against *Microsporum canis*, 861.
Dichlorodioxyphenylmethane, use of, against epidermophytosis, 872.
pp′-dichlorodiphenyldisulphide, use of, against dermatophytes, 1371.
5-dichloro-7-iodo-8-oxyquinoline, toxicity of, to *Histoplasma capsulatum* and *Paracoccidioides brasiliensis*, 2002.
2-3 and 2-5 dichlorophenoxyacetate-H-ion conc. in relation to inhibitory action of, on *Trichophyton*, 638.
2, 4-dichlorophenoxyacetate, use of, against dermatophytes, 141, 629, 638.
Dichloroxyquinaldine, use of, against *Candida albicans*, 113; 2224; dermatophytes, 2224.
Didromycin, use of, against aspergillosis, 480.
Diethylamine salicylate and undecylenate, use of, against skin infections, 1637.
Diethylstilboestrol, use of, against *Blastomyces dermatitidis*, 51; *Coccidioides immitis*, 516, 1247; fungi, 516.
Dihydrotachysterol, *see* A.T. 10.
Dihydroxy-5-5′-dichlorophenylmethane, use of, against *Candida albicans*, 2142.
Dihydroxystilbamidine, use of, against *Coccidioides immitis*, 1816.
2, 6-diiodphenol, use of, against *Candida albicans*, 1340; *Trichophyton mentagrophytes*, 1340.
Dimethylamine-ethylbenzylaniline, effect of, on resistance of mice to *Candida albicans*, 1062.
Dimethylbenzylhexadecylamine, use of, against dermatophytes, 423.
Dinitrochlorobenzene, effect of *Trichophyton* infection on skin sensitivity to, 387.
Dioctyl sodium sulphosuccinate, use of, against onychomycosis, 1362.
2, 2′-dioxy-5, 5′-dichlorodiphenylsulphate, use of, against dermatophytes, 144, 1647, 1698; mycoses, 2202; *Streptomyces albus*, 1119.
'Diodoquin' in relation to *Candida albicans*, 1575.
2, 2′-dioxy-5, 5′-dichlorodiphenylsulphide, use of, against *Candida albicans*, 2128; *Cryptococcus neoformans*, 1804; dermatophytes, 144, 897; *Haplosporangium parvum*, 761; *Torulopsis minor*, 897.
Diparalene, use of, against *Candida albicans*, 8, 555; *Cryptococcus neoformans*, 555; dermatophytes, 410, 1100; *Phialophora verrucosa*, 8; *Sporotrichum schencki*, 8.
Diphenylpyraline, use of, against dermatophytoses, 582.
Discomyces bahiensis synonym of *Nocardia madurae*, 1746.
Disodoquin, use of, against *Candida albicans*, 551.
Distilbene, use of, against *Blastomyces dermatitidis*, 1486; *Cryptococcus neoformans*, 2052.
Dog, *Actinomyces bovis* on the, in England, 20; U.S.A., 21, review of, 1986.
—, actinomycosis of the, in Canada, 1751; France, 686; U.S.A., 21, 951.
—, *Allescheria boydii* on, in (?) U.S.A., 1631.
—, *Blastomyces dermatitidis* on, in U.S.A., (?) 53, 789, 969, 1159, 1492, 2363; review of, 1986.
—, *Candida mycoderma* on the, isolation of, from faces, 2384.
—, — *pseudotumoralis* on the, in France, 285, 1296; culture of, 785; study on, 1296.

[Dog], *Coccidioides immitis* on the, in U S.A., 508, 651, 744, 1009, 1249, 1526, 1824, 1987, 2068, 2069, 2423–2425; infection of, from soil, 2068; review of, 1986; study on, 2425.
—, *Cryptococcus neoformans* on the, in Canada, 1229; U.S.A., 46, 1215, (?) 1508; review of, 1986.
—, *Histoplasma capsulatum* on the, in Canada, 2459; U.S.A., 5, 28, 89, 90, 333, 528, 546, 651, 788–9, 1034, 1041, 1159, 1271, 1275, 1291, 1294, 1842, 1848, 1868–9, 1987, 2450; cortisone in relation to, 547, 2460; experimental transmission of, by pulmonary route, 330; histoplasmosis in relation to, 333, 1291; isolation of, from lymph nodes, 1843; methods of inoculating, 547; no reaction to, in Chile, 1040; France, 1042; review of, 1986; transmission of, to man, 2450; to mice, 1843.
—, *Microsporum audouini* on the, in U.S.A., 651.
—, — *canis* on the, in Chile, 1936; France, 148; Great Britain, 1721, 2168; Norway, 2172; Republic of Ireland, 2220; U.S.A., 377, 651, 1928, 2171, 2328, 2332; culture of, 402; experimental transmission of, to man, 148; transmission of, to man, 651, 2168–9, 2172, 2220, 2292; use of acetic acid against, 1928.
—, — *gypseum* on the, in U.S.A., 2332.
—, *Mucor* on the, in U.S.A., 445.
—, mucormycosis of the, in U.S.A., 577; review of, 1986.
—, *Nocardia asteroides* on the, 1468; in Eritrea, 953; Hawaii, 952; U.S.A., 22, 1469, 1750; review of, 1986.
—, *Rhinosporidium seeberi* on, in Argentina, 2574.
—, ringworm of the, in U.S.A., 2334.
—, *Sporotrichum schencki* on, 1711.
—, *Trichophyton mentagrophytes* on the, in Great Britain, 1721; U.S.A., 2292, 2332, 2334.
—, — *verrucosum* on the, in Great Britain, 2335.
Donkey, *Trichophyton verrucosum* on the, in U.S.A., 2328.
Dreuw's ointment, use of, against *Trichophyton megnini*, 1416.
Duck, aspergillosis of the, in Great Britain, 1721.
—, *Aspergillus fumigatus* on the, in Ghana, 1988.
—, *Histoplasma capsulatum* on, in (?) Surinam, 325; U.S.A., 333.

Ectotrichophyton, a genus of the Trichophytoneae, 140.
Electron microscopy, use of, in studying *Candida*, 95; *C. tropicalis*, 1909; *Coccidioides immitis*, 2415; *Histoplasma capsulatum*, 1563, 1909; *H. duboisii*, 1909; *Paracoccidioides brasiliensis*, 1514, 1909; *Nocardia asteroides*, 1909; *Sporotrichum schencki*, 1909; *Streptomyces madurae*, 1909.
Electrophoretic studies on rabbit serum before and after immunization, 1899.
Electrotherapy, use of, against *Blastomyces dermatitidis*, 962.
Elephant, *Candida albicans* and *C. utilis*, isolation of, from faeces, 2384.
—, *Pityrosporum pachydermatis* on the, in Japan, 1708.
Elkosin in relation to moniliasis, 829; use of, against *Actinomyces israeli*, 674, 1450; *Candida albicans*, 357; *Cryptococcus neoformans*, 2048.
Emetine hydrochloride in relation to *Candida albicans*, 1575.
Encephalomyocarditis virus on the mouse, effect of *Cryptococcus neoformans* on susceptibility to, 751.
Endogone on rodents in Canada, 1629.
[*Endogone*] *fasciculata* on rodents in Canada, 1629.
— — on straw in Canada, 1629.
— *pulvinata* on rodents in Canada, 1629.
Endomycin, use of, against *Candida albicans* and other fungi, 1891.
Endomycopsis fibuliger on man in Germany, 1734.
Eosinophilia of man, *Histoplasma capsulatum* associated with, in Surinam, 327.
Epidermophyton, the genus, 140.
—, use of antergen and benadryl against, 153 clove oil and eugenol against, 152.
— *angustisporum* on man in Java, 140.
— *floccosum*, 378; action of actamer on, 871; amino acid content of, 589; antibiotic effect of *Oospora virescens* on, 825; biological study on, 2180; culture of, 401, 403, 409, 645; effect of nipasol undecylenic acid and vioform with antibiotics on, 886; of *Bacillus chitinovorus* chitinase on, 1408; pleomorphism of, 2485; use of fluvomycin, 921; terreic acid, 694 baccilomycin A & R, 1108; dichloroxyquinaldine, 2224; endomycin, 1891; nitrostyrenes, 1160; stergen, 157; synkayvite, 2106; and trichothecin, 1433, against.
— — on chick-embryo membranes, morphological study on, 1676.
— — on man, 2291, 2302; in Australia, 652; Austria, 1691; Belgian Congo, 2298; Belgium, 139, 147, 149, 2201; Canada, 131, 1138, 2325; Finland, 130, 892; Germany, 640, 1112, 2200; Great Britain, 362, 1094, 1652–3, 1669, 2297, 2301; Holland, 1123; Hong Kong, 606; Israel, 1407; Java, 140; Malaya, 606; Northern Ireland, 854; S. Africa, 1154; Spain, 1368, 1413; Switzerland, 850; Turkey, 1924; U.S.A., 409, 639, 859, 893, 1053, 1971, 2292, 2294, 2324; affecting arm, 1053; chest, 1053; face, 1971, 2298; feet, 138, 850, 892, 1123, 1669, 2201, 2297, 2301–2, 2307; genital regions, 1407; groin, 1053; hair, 1652; leg, 1053; lungs, 149; scalp, 139; skin, 130, 606, 1691, 2200; toenails, 1971; associated with *Candida albicans*, 1053; culture of, 409, 2294; diagnosis of, 364; epidemiology of, 2307; experimental infection of, 1683, 2307; family infection in, 2297; isolation of, from sputum and urine, 149; nutritional requirements of, 1689; physiology of, 2289; reinfection of, from socks, 1669; reversibility of pleomorphism in, 147; spirals in cultures of, 150; use of asterol, 197; Bacterium 13, 640, 1624; bromoacetic acid, 423; 1:2:3:4-diepoxybutane, 1652; dimethylbenzylhexadoxylamine hydrochloride, 423; ethyl bromoacetate, 368; ethyl glycol monobromoacetate, 368; hydroxystilbamidine, 704; mercuric acetate, 1652; nicetin, 2325; N-n-butyl-3-phenyloalicylamide, 2324; P. 594, 639; salundek, 1971; stilbamidine, 704; undecylenic acid, 850; and Whitfield's ointment, 1971, against.
— — on shoes and shower stalls in U.S.A., 874.
Epidermophytosis of man in Austria, 414; Germany, 415, 417, 872, 885, 1389–90, 2166, 2192; Great Britain, 1940; U.S.S.R., 1666; associated with *Erythema nodosum*, 2192; affecting feet, 415, 1389, 1666, 2192; hands, 1389; epidemiology of, 2304; occupational nature of, 1940; use of acetic acid, 1666; atropine, 1666; bradex, 885; bradex-vioform, 885, 1389, 1390; dichlorodioxyphenylmethane, 872; fissar-antimykoticum, 872; mycoderm, 417; multifungin, 2192; and undecylenic acid, 414, against.
Eremoplastron bovis, *Sphaerita hoari* on, 1920.

Erysipelas of man in relation to tinea pedis in Israel, 2309.
Erythema annulare centrifugum of man in U.S.A., 134.
Erythema nodosum of man in Germany, 2192; trichophytosis wrongly determined as, 2193.
Erythromycin, use of, against *Actinomyces bovis*, 1459; *A. israeli*, 2019.
Escherichia coli, 355; effect of, on *Mucor ramosus*, 1158; inhibition of pathogenic fungi by, 446; interaction of *Candida albicans* with, 2377; symbiosis of, with fungi, 101.
Estrogens, use of, against dermatophytes, 2488.
Ethyl alcohol, inhibition of *Cryptococcus neoformans* by, 1507.
— bromoacetate, use of, against dermatophytes, 368.
— vanillate, use of, against *Blastomyces dermatitidis*, 52; *Candida albicans*, 350; *Coccidioides immitis*, 743, 1005, 1007, 1008, 1238, 1521; *Cryptococcus neoformans*, 1220, 1507, 2433; *Histoplasma capsulatum*, 314–316, 519, 528, 743, 1267, 1276, 1545; *Nocardia brasiliensis*, 1007.
Ethylene bis-dithiocarbamate esters as fungicides, 1364.
— glycol monobromoacetate, use of, against dermatophytes, 368.
Eugenol, use of, against dermatophytes, 152.
Extradial in relation to *Candida albicans*, *Cryptococcus neoformans*, and *Histoplasma capsulatum*, 932.

Faeces of man and animals, yeasts in, 2523.
'Farmer's lung' of man in France, 347; Great Britain, 252, 253; Northern Ireland, 1058; Republic of Ireland, 2032; U.S.A. (?) 1057.
Fatty acids, use of, against dermatophytes, 2488.
Favus of man in Germany, 164; India, 1095; U.S.S.R., 900; spread of, 2489.
Filipin, toxicity of, to pathogenic fungi, 1430.
Finaf, composition of, 2327; use of, against dermatophytosis, 2327.
Fissan-antimykoticum, use of, against dermatophytes, 872.
Fissan-tar oil, use of, against *Aspergillus flavus*, 1481.
Flavacid, production of, from *Actinomyces flavus* and use of, against *Candida* and dermatophytes, 637.
Fluoride, effect of, on metabolism of *Microsporum audouini* and *M. canis*, 601.
Fluvomycin, antagonism of, to bacteria and fungi, 921; production of, from *Bacillus subtilis*, 921.
Fonsecaea cladosporium and *F. pedrosoi* var. *cladosporioides* on man in Queensland, 58; affecting arm and hand, 58.
Formaldehyde, use of, against *Microsporum audouini* and *M. canis*, 362; *Rhinosporidium seeberi*, 1635; *Tarsonemus fusarii*, 665; as shoe disinfectant against dermatophytes, 587.
Formic acid, use of, against tinea pedis, 2305.
Formocresol, use of, against *Candida albicans*, 1302.
Fowl, *Aspergillus fumigatus* on the, in Brazil, 249; Germany, 2509b; Ghana, 1988; Great Britain, 116, 1191, 1196, 1721, 2022; Uruguay, 247; U.S.A., 246, 249–50, 696, 1762, 2509a; susceptibility to, 1191; transmission of, through the eggshell, 246; use penotrane against, 116.
—, *Candida albicans* on the, in Great Britain, 116, 837, 1721; Poland, 361; U.S.A., 1625; Venezuela, 1904; aureomycin in relation to infection of fecal microflora by, 1347; copper sulphate in relation to, 2145; diagnosis of, 1625; terramycin in relation to infection of fecal microflora by, 1347; use of penotrane against, 116.
[Fowl] *Cryptococcus molishianus* on the, aureomycin in relation to, 1347.
—, fungi in the lungs of the, in Wales, 1196.
—, *Histoplasma capsulatum* on the, 1553; in (?) Surinam, 325; U.S.A., 1271, 1291.
—, *Trichophyton gallinae* on the, in England, 2338; (?) Ghana, 1988; Puerto Rico, 2218; Uruguay, 247; spread of, to man, 2218.
Fox, *Histoplasma capsulatum* on the, in U.S.A., 1294.
Fradicin, 201.
Fuchsin, use of, against *Candida albicans*, 1576.
Fungi on animals, 1; lists of, 437.
— pathogenic to birds and farm animals, 2244.
—, dimorphic, on man, affecting the lungs, 2.
Fungichthol, use of, against dermatomycosis of man, 849.
Fungicide sensitization, 364.
Fungicides, evaluation of, against *Trichophyton rubrum*, 614; methods for testing, 933, 1365.
Fungicidin, 208, 1441; use of against *Candida* spp., 209, 1343; *Coccidioides immitis*, 300, 738; *Geotrichum*, 1343; *Histoplasma capsulatum*, 791.
Fusarium on man in Austria, 654.
— *sporotrichioides*, toxicity of, to animals and man, 2245.
Fusocillus girans on man in France, 2010.

Garlic juice, use of, against *Candida* and *Trichophyton*, 143.
Geigy 20704 and 21772, use of, against pathogenic fungi, 200.
Gentersal, use of, against *Candida albicans*, 1611.
Gentian violet, sensitization to, 1587.
— —, use of, against *Aspergillus flavus*, *A. nidulans*, and *A. niger*, 1757; *Candida albicans*, 356, 553, 1052, 1054, 1306, 1353, 1419, 1575–6, 1587, 1621–2, 2399; *C. krusei*, 1353; *Cryptococcus neoformans*, 1505; *Microsporum gypseum*, 1937; *Phialophora compacta*, 2351; *Trichophyton interdigitale*, 1684; *T. mentagrophytes*, 1419, 1950.
Geotrichosis of man, 439; in Canal Zone, 1012; U.S.A., 2250.
Geotrichum on man in Australia, 652; affecting lungs, 958; serology of, 958; toxicity of filipin to, 1430.
— *asteroides*, antibiotics in relation to, and use of methylparaben and propylparaben against, 826.
— *candidum*, cultural study on, 1983.
— — in polluted water and sewage in U.S.A., 2003.
— — on man in Czechoslovakia, 2205; France, 1477; Germany, 338, 1355; N. America, 1140; affecting feet, 2205; lungs, 1477, 2000; isolation of, from sputum, 1355; therapy for, 2000.
— — on the pig in Algeria, 1252.
— *spheroides* on man in Canada, 1084.
— *versiforme*, pathogenicity of, 1252.
Gibberella zeae poisoning animals in U.S.S.R., 2245.
Glenospora clapieri, 1913.
— *khartoumensis* synonym of *Madurella mycetomi*, 1911.
— *semoni* on man in Assam, 2157.
Glenosporella loboi on man, 1995; in Brazil, 2056; Costa Rica, 713; taxonomy of, 2056.

Glucantime, use of, against *Sporotrichum schencki*, 1131.
Glucose, use of, against onychomycosis, 390.
Glycerine, use of, against *Microsporum audouini* and *M. canis*, 602; *Sporotrichum schencki*, 175.
Goat, *Candida krusei* on, isolation of, from faeces, 2384.
Gomenol, use of, against *Rhinosporidium seeberi*, 1635.
Goose, aspergillosis of the, in Great Britain, 1721.
—, pink footed, fungi on the, in Iceland and Scotland, 2023.
Gruby, D., 1716.
Guinea-pig, *Absidia corymbifera*, *A. ramosa*, and *Aspergillus fumigatus* on, in Great Britain, 1721.
—, *Trichophyton mentagrophytes* on, in Cuba, 2340; U.S.A., 1946, 2292, 2328.
Gum tragacanth, serological relationship of, to *Cryptococcus neoformans*, 1218.
Gymnoascus reessii on animals in U.S.A., 1250.
'Gynben', composition of and use of, against *Candida albicans*, 2394.

Halogen phenol esters and derivatives, use of, against *Trichophyton* and *Candida*, 1963.
Hansenula species on man in Norway, 1295.
Haplosporangin testing in Hawaii, 762; U.S.A., 1251.
Haplosporangium on the mouse in Canada, 2072.
— *parvum*, histochemical studies on *Coccidioides immitis* and, 1813.
— — in soil in U.S.A., 1251.
— — on animals, 1994; in U.S.A., 1250.
— — on the mole in Great Britain, 1013, 1721.
— — on the rat, effect of D25 on, 761.
— — on rodents in England, 2438; Sweden, 2071; U.S.A., 1250.
— — on voles in Canada, 2439.
Hare, *Trichophyton mentagrophytes* on the, in U.S.A., 1948.
'Hemp disease' of man, *Aspergillus* in relation to, 256.
Hesperedin methyl chalcone, use of, against *Candida albicans*, 2144.
Hexachlorodioxyphenylmethane, use of, against dermatophytes, 2213.
Hexachlorophen, use of, against *Candida albicans*, 1584.
Hexachlorophenol, use of, against *Trichophyton interdigitale*, 1684.
Hexadecamethylene-1:16-bis(isoquinolinium chloride), use of, against cattle ringworm, 2331.
Hexylresorcin, use of, against *Candida albicans*, 1584; *Trichophyton mentagrophytes*, 2278.
Hexylresorcinol, use of, against *Cryptococcus neoformans*, 1505; *Trichophyton interdigitale*, 1684.
Histidine 171 and histidyl-histidine in relation to growth of *Trichophyton rosaceum*, 610.
Histoplasma, taxonomy of, 2473.
— *capsulatum*, antagonism of *Chaetomium globosum* to, 923; chemicals fungistatic to, 2002; culture of, 1983, 2090; in mouse cells, 526; effect of liver-spleen glucose on, 2092; electron microscopical study on, 1563, 1909; factors affecting growth of yeast phase of, 1561; hemolytic toxin from, 2441; heat resistance of, 2540; method of examining yeast phase of, 1563; preparing antigen from, for the complement fixation test, 1541; morphological study on, 1706; mycelial phase of, 1854; 'saprophytic form' of, 530; serology of, 310, 708, 1540, 2088, 2440, 2443; spore size of, 77; staining, 919; survival of, in water, 767; technique for immunizing the mouse against, 332; toxicity of filipin to, 1430; use of, ascosin, 2105; blocked steroids, 447; candicidin, 1147; chlorquinaldol, 1966; cod-liver oil, 1730; cortisone, 1569; endomycin, 1891; mycostatin, 1850, 2253; mycothricin, 922; oligomycin, 925; pentamidine, 453, 454; phenamidine, 453; propamidine, 453, 454; stilbamidine, 454; sulphonamides, 1849; synkayvite, 2106; trichothecin, 1433; and tyrothricin, 100, against; yeast phase of, 1274, 1292, 1540, 1853, 1854, 2090.
[*Histoplasma capsulatum*] in soil, 1432, 2091; in French Guiana, 1551, 2445; French Guinea, 2076; Japan, 540; Panama, 1253, 1722; Peru, 1722, 1878; U.S.A., 304, 400, 536, 545, 651, 765, 1022–3, 1258–9, 1275, 1291–1294, 1722, 2075, 2097; Venezuela, 1722, 1829.
— — in water in U.S.A., 536, 1275, 2085–6; viability of, 1021.
— — on animals in U.S.A., 765, 788, 1291, 1294, 1552; antibiotics in relation to, 98; extradiol in relation to, 932; resistance to, 1852; role of epidemiology of histoplasmosis, 788.
— — on the cat in U.S.A., 1041, 1271, 1294, 1559.
— — on cattle in U.S.A., 445, 651, 788, 1291; histoplasmin in relation to, 534, 1291; culture of, 445; staining, 445.
— — on the dog, 71; in Canada, 2459; U.S.A., 5, 28, 89, 90, 333, 528, 546, 651, 788–9, 1034, 1041, 1159, 1271, 1275, 1291, 1294, 1842, 1848, 1868–9, 1987, 2450; cortisone in relation to, 547, 2460; experimental transmission of, by pulmonary route, 330; histoplasmin in relation to, 333, 1291; no reaction to, in Chile, 1040; France, 1042; isolation of, from lymph nodes, 1843; methods of inoculation, 547; review of, 1986; serology of, 547, 1848; transmission of, to man, 2450; to mice, 1843.
— — on the duck in (?) Surinam, 325.
— — on the fowl in (?) Surinam, 325; U.S.A., 1271, 1291.
— — on the fox in U.S.A., 1294.
— — on the guinea-pig, experimental transmission of, by pulmonary route, 330.
— — on the hamster, experimental infection of, 91.
— — on the horse in U.S.A., 651, 1291; histoplasmin test negative in France 1042.
— — on mammals in Surinam, 86.
— — on man, 7, 71–72, 1139, 2419; in Africa, 1840, 1854; America, 1142, 1854; Argentina, 196, 972, 1555, 1859, 1866, 2551; Asia, 1840; Australia, 307, 651; Belgian Congo, 1285; Belgium, (?) 1550, 2445; Brazil, 1039, 2084; Burma, 328; Canada, 1138, 1277, 2544; Central Congo, 1279; Chile, 529, 771, 1040; Cuba, 81, 787; France, 1548, 2453; French Cameroons, 1862, 2447; French Equatorial Africa, 1486; French Guiana, 322, 786, 2452, 2550; Germany, 784, 930, 1019; Great Britain, 519–20, 1556–7, 2083, 2103; India, 782, 1558; Italy, 306, 1036; Java, 1839, 1855, 2074, 2098; Kenya, 523, 1781; Mexico, 302; New South Wales, 308; N. America, 1140, 1826; Panama, 1254; Paraguay, 2546; Peru, 2547; Philippines, 1037; Portugal, 783, 1836; Samoa (American), 1286; S. Africa, 88, 1154, 2455–6; S. America, 440; Spain, 198; Surinam, 85, 323, (?) 324, 326–7, 524–5, 2077; Sweden, 1539; Uganda, 1278; Uruguay, 1038, 1076; U.S.A., 74, 76,

78, 80, 82–84, 197, 304, 309–315, 317–18, 319–321, 490–1, 527–8, 531–535, 537–8, 543–4, 765, 768, 770, 772–3, 778–780, 789, 920, 929, 1014–15, 1017, 1020, 1022–1024, 1026–27, 1031, 1033, 1035, 1257, 1260, 1262–3, 1265–1267, 1269–1273, 1275–6, 1280, 1289, 1291, 1438–9, 1482, 1536–1538, 1542, (?) 1543, 1544–5, 1552–1554, 1559, 1562, 1564–1567, 1824*a*, 1825, 1827, 1830–1834, 1837–8, 1841–2, 1856–1858, 1860–1, 1863–1865, 1867, 1980, 1982, 1993, 1996, 2078–9, 2087, 2089, 2093, 2097, 2099, 2100, 2102, 2104, 2233, 2250, 2442, 2446, 2448–2451, 2454, 2457, 2458, 2545; Venezuela, 87, 785, (?) 1256, 2248, 2548–9; affecting adrenal glands, 309, 538, 778, 1014, 1020, 1556, 1857–8; anus, 314; aorta, 778; appendix, 82; bone marrow, 318, 778, 1260; bowels, 778; bronchi, 778; brain, 778, 2084; chest, 1550; endocardium, 1014, 1996; endothelium, 770; epiglottis, 315, 1857; feet, 928; gums, 2104; intestines, 538, 785, 1267, (?)2084; kidneys, 778, 1857; larynx, 528, 532, 535, 770, 778, 1276, 1556, 1857, 1859; liver, 309, 538, 778, 785, 1260, 1267, 1275, 1862, 2084; lungs, 7, 70, 76, 83, 309–10, 317, 319–20, 523, 533, 535, 537–8, 544, 653, 765, 768, 772, 778, 782, 784, 929–30, 958, 1014, 1016–17, 1018–19, 1022, 1024, 1028–9, 1030, 1032–3, 1190, 1254–1257, 1266, 1269, 1277–8, 1280, 1439, 1545, 1554–1557, 1566–7, 1827, 1830, 1838–9, 1841, 1861–1864, 1993, 2000, 2078, 2089, 2093, 2097, 2099, 2100, 2101, 2233, 2442, 2446–7, 2449, 2451, 2454–2458; lymph nodes, 309, 370, 778, 1260, 2084, 2089, 2102; mesenteric glands, 785; mouth, 80, 770, 778, 1038, 1273, 1555, 2098, 2445; nervous system, 312, 1265, 1860; nose, 770; oropharyngeal region, 1267; palate, 535, 1275, 1866, 2104; pharynx, 528, 1038, 1857; rectum, 314; skin, 1555, 1558, 2103, 2453; spleen, 309, 778, 1260, 2084, 2098; sputum, 2538; tongue, 308; trachea, 778, 783; viscera, 198, 770, 1558; vocal chords, 1857; account of, 1826; 'African' form of, 1279; association of, with Addison's disease, 1020, 1537, 1857, 1858; broncholithiasis, 2101; eosinophilia, 327; gastric ulcer, 313; Hodgkin's disease, 75, 972, 1014, 1039, 1732; *Mycobacterium tuberculosis*, 2442; reticuloses, 1732; tuberculosis, 535, 1537, 1827; calcifications in relation to, 2448; causing mesenteric lymphadenitis, 1833; clinical picture of, 763; comparison of, with *Blastomyces dermatitidis*, 264; with *Coccidioides immitis*, 264; *Histoplasma duboisii*, 2445; other strains, 2445; tuberculosis, 264; conference on, in U.S.A., 2073; conversion of, from mycelial to yeast phase, 769; cortisone in relation to, 780; culture of, 303, 308, 311, 318, 320, 519, 527, 532, 1020; diagnosis of, 81, 305, 318, 653, 763, 771–773, 1017, 1019, 1039, 1190, 1266, 1536, 1825, 1832, 2446, 2537, 2538; differentiation between *Blastomyces dermatitidis*, *Coccidioides immitis*, tuberculosis and, 731; evaluation of clinical aids to diagnosis of, 2442; epidemiology of, 304, 1867, 2450–2452; forms of, 543, 1265; geographical distribution of, 1835; healed pulmonary lesions in, 1566; histoplasmin tests in relation to, 305, 764, 1835, 2542; dependability of, questioned, 2084; in Africa and Asia, 1840; Belgian Congo, 1285; Brazil, 1255, 2541; Burma, 328; Chile, 7, 73, 301; Cuba, 787; Cyprus, 1840; France, 1287–8, 1548–9; French Cameroons, 1862, 2447; French Equatorial Africa, 1279; French Guiana, 2452; Germany, 329, 775; Great Britain, 520; Hawaii, 762; India, 782, 1025; Indonesia, 1839, 1840; Italy, 306, 781, 1036; Japan, 540, 2543; Kenya, 523, 1281; Mexico, 302; Persia, 1840; Philippines, 518, 1037; Portugal, 1836; Samoa, 1286; S. Africa, 88; Spain, 776; Sudan, 1840; Surinam, 85, 323, 524, 2077; Sweden, 1290, 1539; Uganda, 1278; Uruguay, 1076; U.S.A., 76, 79, 83–84, 321, 534–5, 539, 541–2, 772, 777, 779, 1017, 1022–3, 1026–7, 1254, 1258, 1261–1263, 1266, 1271, 1275, 1289, 1291, 1531, 1538, 1542–3, 1554, 1562, 1565, 1567, 1827, 1830, 1833, 1834, 1837–8, 1992, 2078, 2087, 2089, 2097, 2100–2102, 2448–2450, 2542; Venezuela, 1256; Vietnam, 1840; history of investigations on, 517; infection of, from air-borne spores, 1482; animals, 788; caves, 1945, 2455, 2456; chicken houses, 765, 1270, (?) 1841; (?) dog, 2450; laboratories, 76, 658, 1538, 1831; (?) manure, 1017; mosquitoes, 324, 1258; silo, 1029; soil, 532. 540, 1022, 1023, 1258, 1552, 1980, 2091, 2440; trees, 1841; isolation of, 2539; from blood, 1031, 1855; blood stream, 1280; bone marrow, 1035, 1780; pleural fluid, 1015; sputum, 78, 311, 537, 544, 1033, 1777, 1855; throat, 1280; laboratory studies on, 303; method of obtaining yeast cell suspensions of, 1559; staining, 920; mineral content of grass in relation to, 534; morphology of, 1544, 1996; not affecting appendixes in U.S.A., 1546; occupational hazards from, 443; parasitism in, 1143; pathogenesis of, 1728; pregnancy and pneumothorax complicating, 2457; pulmonary calcifications in relation to, 83, 87, 2100; recent information on, 764, 1982; review of, 1525, 1534, 2078; review of literature on, 70, 72, 74, 306, 928, 1016, 1018, 1032; saprophytism in relation to epidemiology of, 1141, 1142; sarcoidosis in relation to, 309; serology of, 958, 1542; sporulation in, 1031; streptomycin in relation to, 100; study on, 1824*a*; therapy for, 2000; tuberculosis in relation to, 1024, 1438, 2442; use of actidione, 544; atebrin, 308; aureomycin, 1859; candicidin, 205; cortisone, 1280, 2454; diamidin, 81; electro-desiccation, 1273; ethyl vanillate, 314–316, 519, 528, 743, 1267, 1276, 1545; mepacrine methonosulphate, 308; moldin, 206; MRD–112, 2458; neoarsphenamine, 1273; neosalvarsan, 80; penicillin, 1557; phaeofacin, 206; potassium iodide, 80, 1273; propamidine, 1276; stilbamidine, 2104; sulphadiazine, 308, 1038, 1558, 1866; sulphamide, 1555; sulphonamide, 1267; terramycin, 80; testerone, 1267; varidase, 1276; and X-rays, 80, against.

[*Histoplasma capsulatum*] on the monkey in French Guinea, 2096.

— — on the mouse in U.S.A., 1294; experimental inoculation of, 1849; immunized and non-immunized, 1844–5; exposure to soils known to contain, 2091; factors affecting resistance to, 790; hypersensitivity in, 1846; immunization against, 1292; method of isolation, 1980; resistance to, 1847; pathogenicity of, 1560; relation of age and sex to resistance to, 2095; single spore infection by, 1293; survival of, 1848; use of ascosin, 792; and fungicidin, 791, against.

— — on the opossum in U.S.A., 1294.

— — on the pig in U.S.A., 1291.

— — on the rat in U.S.A., 788, 1294; cortisone in relation to, 331.

— — on rodents in U.S.A., 1159, 1275.

— — on sheep in U.S.A., 651, 788, 1291.

[*Histoplasma capsulatum*] on the skunk in U.S.A., 1294, 1559.
— — on the woodchuck in U.S.A., 1294.
— — f. *duboisii*, *H. duboisii* renamed, 795.
— *duboisii*, electron microscopic study on, 1909.
— — on the hamster, experimental infection of, 794.
— — on man in Belgian Congo, 334, 793, 1137, 1142, 1283; Belgium, 795, (?) 1150, 1284; Congo, 2445; French Equatorial Africa, 2080–1; (?) Great Britain, 2103; Nigeria, 522; affecting the chest, 1550; glands, 1283; skin, 2103; comparison of, with *H. capsulatum*, 1854, 2445; histoplasmin in relation to, 793, 2081; new strain of, 795; parasitism in, 1143; renamed *H. capsulatum* f. *duboisii*, 795; saprophytism in relation to epidemiology of, 1142; study on, 2081; transmission of, to guinea-pig, 1284.
— — on the monkey in France, 1851.
— *farciminosum* in Burma, 1854; Ghana, 1988; *Cryptococcus farciminosum* renamed, 42; culture of, 2055.
— — on the horse in Greece (reintroduced from Italy), 92; U.S.A., 1159; U.S.S.R., 1638, 1639, 2553; use of blastomycin for control and diagnosis of, 1638; histoplasmin reaction to, 1570, 1639, 2553.
— — on the mule in Greece reintroduced from Italy, 92.
Histoplasmosis of animals, literature on, 2084.
— of man, 439; in Africa, 1282; French Equatorial Africa, 2081; Hong Kong, 1282; India, 1282; Italy, 521, 2082; S. America, 440; U.S.A., 1865; analogy between *Cryptococcus glabratus* and, 502.
Hodgkin's disease of man, 273; associated with *Cryptococcus neoformans*, 494, 498, 972, 1503, 1732, 1791–1794, 2044; *C. neoformans* var. *innocuous*, 34; *Histoplasma capsulatum*, 75, 1014, 1732; *Nocardia asteroides*, 947; simulating *Paracoccidioides brasiliensis*, 717.
Hormiscium on man in Germany, 2190.
Hormodendrum langeroni, use of trichothecin against, 1433.
Hormones, 1073, 2382; effect of, on experimental moniliasis, 1073, 2382.
Horse, actinomycosis of the, in Queensland, 18.
—, *Actinomyces bovis* on the, in (?) Queensland, 18.
—, *Basidiobolus ranarum* on, in Indonesia, 2153.
—, *Candida tropicalis* on the, use of nitrofuran against, 2372.
—, *Cryptococcus neoformans* on the, 277; in U.S.A., (?) 1508.
—, *Histoplasma capsulatum* on, in U.S.A., 651, 1291; histoplasmin reaction negative in France, 1042.
—, — *farciminosum* on, in Ghana, 1988; Greece, reintroduced from Italy, 92; U.S.A., 1159; U.S.S.R., 1638, 1639, 2553; histoplasmin reaction to, 1570, 1639, 2553.
—, *Microsporum equinum* on the, in U.S.A., 635.
—, — *gypseum* on, in U.S.A., 2219.
—, *Phialophora verrucosa* on the, in Turkey, 729, 730.
—, *Rhinosporidium seeberi* on the, in Argentina, 842, 1635; U.S.A., 1158.
—, *Sporotrichum schencki* on the, in U.S.A., 1159.
—, *Trichophyton equinum* on the, in U.S.A., 635, 2328.
—, — *granulosum* on the, in U.S.A., 635.
—, — *mentagrophytes* on the, in Chile, 1974.
—, — *verrucosum* on the, in Great Britain, 1721.
Humulon, use of, against *Blastomyces dermatitidis*, 52.
Hyalopus (?) *keratoplasticum* on man in U.S.A., 449.
— *onychophilus* on man in U.S.A., 1623.
Hyamine 1622, use of, against *Candida albicans*, 1576.
Hydrargyrum ammoniatum, use of, against *Microsporum canis*, 1383.
Hydrocortisone in relation to *Candida tropicalis*, 836; use of, against *Candida albicans*, 2134.
Hydrocortisone-acetate, use of, against dermatophytosis, 2213.
H-ion concentrate in relation to inhibitory action of some synthetic plant hormones on growth of *Trichophyton*, 638; *Nocardia asteroides*, 1166.
Hydrogen peroxide, inhibition of *Cryptococcus neoformans* by, 1507.
Hydroxychloroquin, use of, against *Coccidioides immitis*, 1008.
1-hydroxy-3-methyl-4-isopropylbenzene, toxicity of, to dermatophytes, 1943.
8-hydroxyquinoline, use of, against dermatophytes, 590, 641, 934; *Candida albicans*, 934.
Hydroxystilbamidine, use of, against *Blastomyces dermatitidis*, 702, 704, 1203, 1207, 1211, 1496, 1780, 1785, 1980; *Candida albicans*, 704; *Coccidioides immitis*, 1248, 1527; *Cryptococcus neoformans*, 704, 935, 1226; *Epidermophytum floccosum*, 704; *Nocardia asteroides*, 935; *Microsporum*, 704, 1120; *Sporotrichum schencki*, 935; *Trichophyton mentagrophytes*, 704; *T. schoenleini*, 935; *T. rubrum*, 935, 1120.
Hyphocid, composition of, 418; use of, against dermatophytosis, 418.
Hyphomycetes of man in Austria, 1373.

Ichthyol, use of, against *Sporotrichum schencki*, 175.
Indiella americana, 1913.
— *mansoni* and *I. reynieri*, 94.
β-indoleacetic acid, use of, against *Trichophyton violaceum*, 141.
β-indolepropionic acid, use of, against dermatophytes, 141.
International Society for Human and Animal Mycology, 1726.
Iodate, use of, against chromoblastomycosis, 2354.
Iodide, use of, against *Blastomyces dermatitidis*, 267, 482, 700–1, 705, 1205, 1779; *Candida albicans*, 553, 1058; *C. guilliermondii*, 2190.
Iodides vegetantes of man in Belgium, *Microsporum gypseum* in relation to, 2323.
Iodine, use of, against actinomycosis, 239; *Blastomyces dermatitidis*, 489, 962, 2002; *Candida albicans*, 1306, 1319; *Coccidioides immitis*, 2002; *Microsporum audouini*, 855; *M. canis*, 1934; *Sporotrichum schencki*, 435; tinea capitis and *Trichophyton rubrum*, 2295; *T. verrucosum*, 896.
Iodine, radioactive distribution of, in experimental infection with *Coccidioides immitis* and *Sporotrichum schencki*, 1529, 2232.
Iproniazid, use of, against *Coccidioides immitis*, 296.
Isaria cretacea on man in Finland, 121.
Isoniazid in relation to *Candida albicans*, 1061; use of, against *Actinomyces israeli*, 470, 1188, 1741; *Coccidioides immitis*, 296; *Cryptococcus luteolus*, 2051.
Isonicotinic acid see 2418; use of, against fungi pathogenic to man, 516; against *Coccidioides immitis*, 2418.
Isonitrosoacetophenone, toxicity of, to *Histoplasma capsulatum* and *Paracoccidioides brasiliensis*, 2002.

Isopropanol, use of, against onychomycosis, 1362.

Jensenia canicruria, utilization of carbon compounds by, 1164.
'Joccar', composition of, and use of against *Malassezia furfur*, 643.

Kangaroo, *Trichophyton mentagrophytes* on the, in U.S.A., 2328.
Karitin, toxicity of, to *Histoplasma capsulatum* and *Paracoccioides brasiliensis*, 2002.
Keratinomyces ajelloi in soil in Belgium, 906, 2196; New South Wales, 1679; 2283; U.S.A., 600.
— — on man in Belgium, 2196; New South Wales, 1679, 2283; infection of, from soil, 2196.
Kloeckera apiculata, electrophoretic study on antigen of, 1899.

L-2, production of, from *Nocardia brasiliensis*, 672.
Lactobacillus acidophilus, symbiosis of, with fungi, 101; interaction of, with *Candida albicans*, 2375.
— *bifidus*, relation of, to *Actinomyces israeli* and *A. naeslundi*, 2255.
Lactoflavin, use of, in combination with antibiotics against moniliasis, 562.
Langeronia, a genus of the dermatophytes, 139.
— *soudanensis*, see *Trichophyton soudanensis*.
Leiner's disease of man in Hungary, *Candida albicans* in relation to, 1326.
Leocillin, use of, against *Candida albicans*, 821.
Leptolegnia marina on *Pinnotheres pisum* in England, 1723.
Lergigan, use of, against pathogenic fungi, 200.
Levurin, 1288, 1314.
Libby 01780, use of, against *Coccidioides immitis*, 1004.
Lipomyces lipoferus, 2047.
— *starkeyi* perfect state of *Cryptococcus neoformans*, 1215.
Lisergan, use of, against pathogenic fungi, 200.
Lithium bromide, use of, against onychomycosis, 390, 2311.
Loboa loboi, *Glenosporella loboi* renamed, 2056.
Lobo's disease of man, 440.
Lugol's iodine, use of, against *Actinomyces israeli*, 681; *Candida albicans*, 356, 1576; *C. tropicalis*, 1320; *Cryptococcus mirandei*, 2436; mycetoma, 335.
Lumin, use of, against dermatophytes, 631.
Lupulon, use of, against *Blastomyces dermatitidis*, 52.
Lymphoblastoma of man, *Trichophyton rubrum* associated with, in U.S.A., 389.
Lysol, use of, against *Microsporum audouini*, 596.
Lysolin, use of, against *Trichophyton interdigitale*, 2274.
Lysozyme, use of, against *Candida albicans*, 103.

M11, production of, from *Streptomyces*, 1973.
M11+sopronol, use of, against tinea pedis, 1973.
Madura foot, see Mycetoma.
Madurella(?) *americana*, 1913; on man in U.S.A., 1080; synonym of *M. mycetomi* (q.v.), 93, 1911.
— *grisea* on man, 2346; in Belgian Congo, 2159, 2345; Brazil, 2156; Uruguay, 1911; U.S.A., 1915; affecting the foot, 1915, 2345; culture of, 2159; diagnosis of, 2159; serological study on, 1913; use of 4,4-diaminodiphenyl sulfone, 1915; sulphatriad, 2345; and sulphonamide, 2345, against.
[*Madurella*] *ikedae* on man in (?) U.S.A., 449; synonym of *M. mycetomi* (q.v.), 93, 1911.
— *lackawanna*, 2346.
— *mycetomi* on man, 2349; in Argentina, 1081, 2506*c*; British Somaliland, 93; India, 2346, 2347; Senegal, 2344; Sudan, 93; Uruguay, 1911, 2506*b*; Venezuela, 2506*a*; affecting the arm, 2346; foot, 1081; diagnosis of, 2159; synonym of, 93, 1910, 1911; use of terramycin against, 2349.
— *ramiroi*, synonym of *M. mycetomi*, 1911.
— *tabarkae* on man in Argentina, 2160.
— *tozeuri* on man in Brazil, 2156.
Maduromycosis of man, 94; in Brazil, 2156; Hawaii, 762; Somalia, 1079; S. America, 440; Uruguay, 1911; fungi causing, 2156; review of, 2156; use of, propamidine, 454; and terramycin, 2349, against.
Maggot therapy against *Actinomyces bovis*, 471.
Magnamycin, in relation to *Candida tropicalis*, 1335; use of, against *Actinomyces israeli*, 2019.
Malachite green, use of, against *Candida*, 1315, 1340, 1588; *Trichophyton mentagrophytes*, 1340.
Malassezia furfur on man in Australia, 652; Belgian Congo, 1091, 1137; Canada, 131, 1138; Cuba, 846; France, 1637; Germany, 123, 643, 1371; Great Britain, 1653; Italy, 425; Jamaica, 1709; Mexico, 2500; Nigeria, 1709; Spain, 428; U.S.A., 445, 634, 876, 1090, 1092, 2324; Venezuela, 1989; affecting the chin, 478; face, 846; scalp, 846; skin, 846, 1637, 1709; culture of, 427, 445; diagnosis of, 634, 1090, 1709; forms of, 846; morphology of, 1091, 1391; technique for staining, 445, 644, 847, 919; use of asterol, 1092; amolysol, 1637; antipyogenic filtrates, 425; asterol, 876, 1092; diethylamine salicylate and undecylenate, 1637; 'joccar', 643; isopiropyl alcohol, 1092; N-n-butyl-3-phenylsalicylamide, 2324; ovitrol, 1371; penicillin F.G.X., 425; phebrocon-serol, 123; pp′-bis-oxy-diphenyldi-sulphide, 1371; sulphonamides, 425; and tyrothricine, 1637, against; Wood's light for detecting, 2271.
Mammals, *Histoplasma capsulatum* on, in Surinam, 86.
—, wild, and birds, bibliography of diseases of, 2241.
Man, see species of the following genera on man: *Absidia*, *Achorion*, *Acremoniella*, *Acremonium*, *Acrothecium*, *Actinomyces*, *Aleurisma*, *Allescheria*, *Alternaria*, *Aspergillus*, *Basidiobolus*, *Blastomyces*, *Candida*, *Cephalosporium*, *Cladosporium*, *Coccidioides*, *Cryptococcus*, *Debaryomyces*, *Endomycopsis*, *Epidermophyton*, *Fusarium*, *Geotrichum*, *Glenospora*, *Glenosporella*, *Hansenula*, *Histoplasma*, *Hormiscium*, *Hormodendrum*, *Isaria*, *Keratinomyces*, *Madurella*, *Malassezia*, *Microsporum*, *Monoverticillium*, *Mucor*, *Nocardia*, *Paracoccidioides*, *Penicillium*, *Phialophora*, *Pichia*, *Piedraia*, *Pityrosporum*, *Pullularia*, *Rhinosporidium*, *Rhizomucor*, *Rhizopus*, *Rhodotorula*, *Sabouraudites*, *Saccharomyces*, *Scopulariopsis*, *Sporotrichum*, *Streptomyces*, *Torula*, *Torulopsis*, *Trichophyton*, *Trichosporon*, *Trichosporum*, *Ustilago*, *Verticillium*.
Marbadal, use of, against *Candida albicans*, 1584, 1714.
Marsupials, nocardiosis of, in Queensland, 688.
Mastigosporium blochii, *Scopulariopsis brevicaulis* should be referred to, 1702.

Mastitis in cattle, fungi in relation to, in Great Britain, 115, 1721; U.S.A., 1354.
Medical mycology in Belgian Congo, 1152, 1153; Great Britain and the Commonwealth, 1719; advances, in, 438, 586, 1980; atlas of, 441; book on, 189; in the hospital laboratory, 916; laboratory manual of, 2242; literature of, 439, 1138; manuals on, 917, 918, 1139; monograph on pioneers of, 1716; Portuguese literature on, 195; practical guide to, 1725; survey of, 4.
— and Veterinary Mycopathology, Report of Committee on, 437.
Mepacrine methonosulphate, use of, against *Histoplasma capsulatum*, 308.
Merazine, use of, against *Actinomyces israeli*, 1455.
Mercuric chloride, use of, against *Sporotrichum schencki*, 175.
— — in benzoin, use of, against *Microsporum audouini*, 855.
— biniodide, use of, against *Cryptococcus mirandei*, 2436.
Mercury bioleate, use of, against *Trichophyton tonsurans* on man, 1701.
— salts, use of, against *Trichophyton interdigitale*, 1965.
Merfen, use of, against *Cephalosporium* and *Trichophyton*, 1668.
Merkuril, use of, against *Candida albicans*, 1340.
Merphen, use of, against mycoses, 2202.
Merrell 354 R-285*a* 063002, use of, against *Coccidioides immitis*, 200.
Merthiolate, use of, against *Candida albicans*, 1903; *Trichophyton interdigitale*, 1684.
Merulius lacrymans in the air in Great Britain, 473.
Merzonin, use of, against *Candida albicans*, 1898.
Mesathine, use of, against *Actinomyces israeli*, 1455.
Metaben, inhibition of *Cryptococcus neoformans* by, 1507.
Metacresyl acetate, use of, against *Aspergillus flavus*, *A. niger*, and *A. nidulans*, 1757.
Methyl cinnamate, toxicity of, to dermatophytes, 1943.
Methyl-2-dihydroxy-4-6-phenylazo-5 pyrimidine, toxicity of, to *Sporotrichum schencki*, by, 187.
Methyl-rosaniline chloride, use of, against *Candida albicans*, 2393.
Methyl undecylenate, toxicity of, to dermatophytes, 1943.
— violet, use of, against *Candida*, spp., 1060, 1588.
Methylene blue, use of, for demonstrating *Cryptococcus neoformans*, 496; against *Candida albicans*, 1576.
Methylparaben, use of, against fungi pathogenic to man, 826.
Methyltestosterone, use of, against fungi pathogenic to man, 516.
Microascus on animals, 1432.
Microbiology and pathology, book on, 191.
Microsporosis of man in Austria, Belgium, and Denmark, 1926; France, 851, 1926; Germany, 1374, 1926, 2166; Great Britain, Italy, Spain, and Switzerland, 1926; use of myxal, 1374; pyrogallic ointment, 1926; thallium, 1374, 1926; and X-rays, 1374, 1926, against.
Microsporum, the genus, 140, 378.
— 137 V.C. on man in Spain, 385.
— *audouini*, 378, 594, 844; amino-acid content of, 589; antagonism of *Chaetomium globosum* to, 933; some antifungal antibiotics to, 1370; to some other fungi, 894; antibiotic effect of *Oospora virescens* on, 825; antibiotic from, 2188; biochemistry of, 1093; culture of, 379, 380; differentiation of, from *M. canis*, 376, 379; effect of *Chelidonium majus* sap on, 1680; of hydroxy-stilbamidine on, 1120; of X-rays on, 380; growth requirements of, 1098; *M. gypseum*-like fuseaux in, 2286; toxicity of filipin to, 1430; *Tyrophagus lintneri* contaminating cultures of, 863; tyrosinase reaction in relation to, 1379, 1391, 2287; use of chlorquinaldol, 1966; endomycin, 1891; fulvomycin, 921; pentamidine, 454; 3-, 4-, 5-phenylsalicylamide, 2226; propamidine, 454; thorium X, 852; 2:4:5-trichlorophenoxyacetic acid, 142; salicylamide, 2227; tetrahydro-9-fluorenone, 1905; and THF, 1731, against; as a test fungus, 154.
[*Microsporum audouini*] on the dog in U.S.A., 651.
— — on man in Argentina, 1931; Canada, 131, 2325; Denmark, 2215; France, 860; Germany, 640, 855–6, 1103, 1371, 1926; Great Britain, 159, 362, 373–4, 376, 381, 1094, 1382–3, 1652–3, 2206; India, 1095; Java, 140; New South Wales, 652, 1935; New Zealand, 1395; Nigeria, 394; Northern Ireland, 853–4; Portugal, 1661; Republic of Ireland, 1670, 2315; Sardinia, 406; Spain, 144, 1413, 1658–9, 1927, 2317; Turkey, 905; U.S.A., 155–6, 158, 375, 411–12, 420, 422, 592–596, 602–3, 651, 852, 858–9, 876, 1100, 1102, 1125, 1375, 1385–1387, 1394, 1671, 1933–4, 2214, 2292–3, 2312, 2314, 2316; affecting hair, 592–4, 596, 852, 1652; pubic region, 1386; skin, 406, 855, 2325; *Aleurisma carnis* similar to, 856; antibiotics in relation to, 826; culture of, 373, 594; diagnosis of, 855; dysgonic form of, 381; effect of inhibitors on metabolism of, 601; epidemiology of, 1926; fluorescence of hair infected by, 592–594; forms of, 1653; host-parasite relationship in, 2484; infection of, from animals, 1670; macroconidial formation in, 373; non-fluorescence of, 1376, 1393; non-occurrence of, in New Zealand, 1384; notifiable disease, suggested as a, 1103; physiology of, 2289; podophyllin in relation to, 156; use of ammoniated mercury, 1395; asterol, 858, 876, 1102, 2214; asterol dihydrochloride, 420; *Bacterium*, 13, 16, 24, 640; betaine hexdecyl amide chloride, 2054; brilliant green, 855; Castellani's solution, 855; chloral hydrate, 602; 5-chloro-salicylanilide, 375; copper sulphate, 381, 602; 1:2:3:4-diepoxybutane, 1652; 2, 2′-dioxy-5, 5′ dichlorodiphenyl sulphide, 144; diparalene, 1100; formaldehyde, 362; glycerine, 602; iodine, 855; lysol, 596; mercuric acetate, 1652; methyl paraben, 826; ovitrol, 1371; nicotin, 2325; *p*-(betadiethylamino-ethoxy) phenyl-phenethyl ketone, 595; penicillin, 145; pp′-bis-oxydiphenyldisulphide, 1371; pp′-dichloro-diphenyldisulphide, 1371; phenyl-mercuric-nitrate, 381; podophyllum resin, 155; propylparaben, 826; pyrogallic ointment, 1926; quartz light rays, 856; salicyl-hebra, 856; salicylic acid-sulphur, 1102; salicylanilide, 412, 1387, 1671, 2214; scheroson-F-compositum, 2213; sodium lauryl sulphate, 602; sodium propionate, 411; spergon, 157, 158; thallium, 1103, 1926; thiolutin, 422; undecylenic acid, 1671; Whitfield's ointment, 381; X-rays, 155, 374, 1103, 1382–3, 1395, 1671, 1926, 1933–4; and zinc undecylanate, 1671, against; wrongly identified as *M. canis*, 856.
— *canis*, 378, 844, 900, 1954; amino acid content

of, 589; antagonism of *Chaetomium globosum* to, 923; biochemistry of, 1093; comparison of, with M137 VC, 385; culture of, 379–80, 645; in soil, 401; on chick embryo, 1676; development of resistance to asterol and undecylenic acid, 1677; differentiation of, from *M. audouini*, 376, 379; dysgonic and eugonic forms of, 2285; effect of X-rays on, 380; enzymes of, 372; *Escherichia coli* inhibiting, 446; growth requirements of, 1098; physiology of, 2289; pleomorphism of, 2485; *Tarsonemus confusus* contaminating cultures of, 862; technique for freezing, 2269; tyrosinase reaction in relation to, 1379, 2287; use of chlorquinaldol, 1966; cod-liver oil, 1730; endomycin, 1891; fluvomycin, 921; hydroxystilbamidine, 704; monothiouronium derivatives, 2225; propamidine, 704; spergon, 157; synkayvite, 2106; trichothecin, 1433; 2′, 3′, 4, 5′-tetrahydroxystilbene, 2228; and X-rays, 624, against.

[*Microsporum canis*] on animals in England, 598; digestion of human hair keratin by, 598; experimental infection of, 1105, 1673; studies on re-infection of, 1674.

— — on the cat in Chile, 1936; France, 148; Great Britain, 604, 1382, 1721, 2162, 2168–9; Netherlands, 2173; Norway, 2172; U.S.A., 377, 651, 1929, 2171, 2292, 2328; culture in soil, 148; experimental infection with, 1929; infecting man, 651, 1382, 2168–9, 2172–3, 2292.

— — on the chinchilla, in U.S.A., 2328.

— — on the dog in Chile, 1936; France, 148; Great Britain, 1721, 2168–9; Norway, 2172; Republic of Ireland, 2220; U.S.A., 377, 651, 1928, 2171, 2292, 2328, 2332; culture of, 402; experimental transmission of, to man, 148; infecting man, 651, 2168–9, 2172, 2220, 2292; use of acetic acid against, 1928.

— — on man in Argentina, 1931; Australia, 652; Canada, 131; Chile, 1936; Denmark, 2215; Ecuador, 1675; France, 860; Germany, 1389, 2326; Great Britain, 159, 362, 376, 598, 1094, 1382–3, 1652–3, 1672, 2169, 2206; Hungary, 664; Netherlands, 2173; New South Wales, 160, 1935; New Zealand, 1104, 1384; Northern Ireland, 853; Portugal, 1661–2, 2207; Republic of Ireland, 1670, 2220, 2315; Sardinia, 406; S. Africa, 1154; Spain, 1413, 1658–9, 1927, 1930, 2317; Switzerland, 861; Turkey, 905, 1914; U.S.A., 155, 377, 412, 420, 422, 595, 599, 602, 651, 859, 893, 1092, 1125, 1363, 1375, 1385, 1394, 1934, 1954, 2292–3, 2312, 2314; Venezuela, 2491; affecting beard, 1930; hair, 595, 1652, 1675; nails, 1363; skin, 406, 599; digestion of human hair keratin by, 598; effect of inhibitors on metabolism of, 601; epidemiology of, 2215; experimental infection of, from the dog, 148; host-parasite relationship in, 2484; infection of, from animals, 651, 861, 1653, 1670, 1927, 1954, 2169, 2172–3, 2220, 2292; *M. audouini* wrongly identified as, 856; non-fluorescence of, 1376; transmission studies on, 1383, 1384; use of ammoniated mercury, 1934; asterol, 861, 1092; asterol dihydrochloride, 420; bradex-vioform, 1389; bromoacetic acid, 423; chloralhydrate, 602; collodion, 1382; copper sulphate, 602; dibromopropamidine isethionate, 160; dibrosal, 861; 1:2:3:4-diepoxybutane, 1652; dimethylbenzylhexadecylamine hydrochloride, 423; diparalene, 1100; ethyl bromoacetate, 368; ethylene glycol monobromoacetate, 368; formaldehyde, 362; Geigy, 20704 and 21772, 200; glycerin, 602; hydrargyium ammoniatum, 1383; iodine, 1934; isopiropyl alcohol, 1092; lergigan, 200; lisergan, 200; mercuric acetate, 1652; ovitrol, 2326; p-(betadiethylamino-ethoxy) phenylphenethyl ketone, 595; phenergen, 200; podophyllum resin, 155; polyvinyl alcohol, 1382; sodium lauryl sulphate, 602; salicylanilide, 412, 1662; salicylic iodide, 1930; sulphur ointment, 1934; thallium salts, 1658; thiolutin, 422; 2:4:5-trichlorophenoxyacetic acid, 142; undecylenic ointment, 1930; and X-rays, 155, against.

[*Microsporum canis*] on the monkey in U.S.A., 2328.

— *distortum* on man in New Zealand, 1678.

— *equinum* on the horse, 1128; in U.S.A., 635.

— *fulvum* synonym of *M. gypseum* (q.v.), 866.

— *gypseum*, 378, 901, 1954; antagonism of *Chaetomium globosum* to, 923; antibiotic from, 2188; enzymes of, 372; growth requirements of, 1098; use of antihistamines, 2477; badional, 1714; chlorquinaldol, 1966; endomycin, 1891; fluvomycin, 921; gentian violet, 1937; mykohexan, 1399; phenergan, 1937; spergon, 157; 1.2.3.4-tetrahydro-9-fluorenone, 1905; as a test fungus, 2182.

— — in soil in Canada, 1722; Cuba, 2282; Hawaii, 1722, 2281; New South Wales, 1679, 2283; Nigeria, 1722; Panama, 1253, 1722; S. Africa, 1945; U.S.A., 400, 536, 597, 600, 651, 1259, 1722, 2332; culture of, 600; method of detecting, 536, 597.

— — on animals in U.S.A., 651.

— — on the cat in Cuba, 1106; Great Britain, 2333.

— — on the dog in U.S.A., 2328, 2332.

— — on the fowl, experimental infection of, 1089.

— — on the horse in U.S.A., 2219.

— — on man in Argentina, 1931; Australia, 652; Belgian Congo, 139; Belgium, 2323, 2497; Brazil, 864, 2495; Canada, 1377; Costa Rica, 865; Finland, 130; Germany, 399, 866, 1665, 1932; Great Britain, 1094, 1107, 1653; Hawaii, 2281; New South Wales, 1935; Philippines, 392; Spain, 1413, 1927; U.S.A., 411, 639, 651, 859, 893, 902, 1375, 1394, 1954, 2290, 2292–3, 2339; affecting arm, 1932; foot, 399, 902; nails, 865, 1665; scalp, 1375, 1394, 1935; skin, 130, 866, 1665; associated with *Trichophyton interdigitale*, 399; infection of, from animals, 1954; soil, 651, (?) 1107, (?) 1932, 2339; in relation to iodides vegetantes, 2323; synonymy of, 866; use of criniton, 607; maldin, 206; oil of rosemary, 607; P-594, 639; salicylic acid, 607; sodium propionate, 411; and thymol, 607, against.

— — on the monkey, 2272.

— — on the mouse and the rat in U.S.A., 2328.

— — var. *nana* on man in Havana, 1097; renamed *M. nanum*, 2152.

— *japonicum*, effect of pityrol on, 627.

— *lanosum*, see *M. canis*.

— *nanum*, *M. gypseum* var. *nana* renamed, 2152.

— *sapporense* on the cat and on man in Japan, 1396.

— *scorteum* and *M. xanthodes*, synonyms of *M. gypseum*, 866.

Mites, *see Tarsonemus*.

Moldin, use of, against fungi pathogenic for man, 206.

Mole (*Talpa*), *Haplosporangium parvum* on, in Great Britain, 1013, 1721.

Moniliasis of capercaillie in Poland, 2139.
— of man in Argentina, 830; Czechoslovakia, 1610; Germany, 1890, 2125, 2126; Great Britain, 242, 2399, 2405; Hawaii, 762; Mexico, 808; Spain, 1318; Switzerland, 806, 829; U.S.A., 356, 876, 1057, 1318, 1339, 1056, 1057, 1870, 2396, 2400, 2401; Venezuela, 1327; affecting lung, 829, 830, 1190, 1318; mouth, 2405; pharynx, 2405; vagina, 2396, 2399–2401; age in relation to, 1378; antibiotics in relation to, 562, 808, 829, 1610, 2396, 2405; chloramphenicol in relation to, 242; diagnosis of, 1190, 1590, 1872, 2400, 2401; serodiagnosis of, 1870; sulpha in relation to, 356; use of gentian violet, 2399; lactoflavin, 562; mycostatin, 2253, 2396, 2399, 2405; trichomycin, 827; and vitamin B, 562, against.
— of the turkey, etiology of, 117, 1074.
—, experimental, effect of aureomycin on, 2383; cortisone on, 1073, 2382.
Monkey, *Histoplasma capsulatum* on, in France, originating in French Guinea, 2096.
—, — *duboisii* on the, in France, 1851.
—, *Microsporum canis* on the, in U.S.A., 2328.
—, — *gypseum* on the, 2272.
—, marmoset, *Cryptococcus neoformans* on the, in Panama, 277.
Monochlorphenol, use of, against *Candida albicans*, 1302.
Monosporium apiospermum, see *Allescheria boydii*.
— *olivaceum* (?) on man in Argentina, 2585.
Monothiouronium derivatives, use of, against *Candida* and dermatophytes, 2225.
Monoverticillium (?) *asymmetricum* and *M.* (?) *ramigenum* on man in Germany, 1734.
Mosaic fungus, 133, 1644.
Mosquitoes transmitting *Histoplasma capsulatum*, 324.
Mouse, *Absidia corymbifera* on the, 1917.
—, *Acladium castallanii* on the, parasitic phase of, 284.
—, *Blastomyces dermatitidis* on the, use of stilbamidine on, 260.
—, *Haplosporangium* on the, in Canada, 2072.
—, *Histoplasma capsulatum* on the, effect of, on *Rickettsia typhi* infection, 1547.
—, *Torulopsis pintolopesii* on the, in Portugal, 284.
—, *Trichophyton mentagrophytes* on the, in U.S.A., 2292, 2328.
—, — *rubrum* on the, pathological study on, 163.
MRD-112, use of, against *Histoplasma capsulatum*, 2458.
Mucicarmine staining, 1500.
Mucor on the dog in U.S.A., 445.
— *cornealis* on man in Hungary, 1733.
— *pusillus*, nutritional study on, 1916.
— — on man in Switzerland, 690.
— *ramosus*, effect of *Escherichia coli* on, 1158.
Mucorineae on poultry in Brazil, 1729.
Mucormycosis of cattle in U.S.A., 577.
— of the dog in U.S.A., 577; review of, 1986.
— of man, 1139; in Australia, 2147; Canada, 2149, 2240; South Africa, 2461; U.S.A., 197, 1075, 1627, 2148, 2250, 2554; associated with other diseases, 1732; diabetes mellitus, 2147, 2148; causing gastric perforation, 2461; diagnosis of, 2250; serology of, 958; therapy for, 2000.
Mule, *Histoplasma farciminosum* on, in Greece re-introducted from Italy, 92.
Multergan, use of, against *Candida*, 581, 1334.
Multifungin, 1423; composition of, 1972; use of, against dermatophytes, 1972, 2192.
Mycelin, production of, from *Streptomyces roseoflavus*, and use of, against *Candida* and dermatophytes, 210.
Mycetoma of man in Belgian Congo, 1078; Ecuador, 1634; Honduras, 798; India, 1077; Philippines, 2167; Senegal, 796; Sudan, 575, 1909; Thailand, 2508; Tunis, 1744; Turkey, 335; U.S.A., 797; affecting finger, 2508; foot, 335, 796, 1077, 1078, 1634, 1744; testis, 575; use of lugol's iodine, 335; penicillin, 335, 1077; pentamidine, 1078; streptomycin, 335; sulphadiazine, 1077; and sulphonamides, 335, against.
Mycobacterium tuberculosis associated with *Histoplasma capsulatum*, 2442; effect of growth factor of *Candida albicans* on, 1871.
Mycoderm, composition of, and use of, against epidermophytosis, 417.
Mycoderma, classification of, 799.
Mycolutein, production of, from *Streptomyces*, 1997; use of, against *Candida*, 1997.
Mycoses of animals, dispersal of, 2243; manual on, 2239; recent work on, 2238; review and survey of in Great Britain, 1718, 1720, 1721.
— of man, 439, 917, 1157; in Austria, 1878; Belgian Congo, 444, 1137, 1990; Belgium, 867; Czechoslovakia, 2205; Germany, 431, 657, 672, 930, 1087, 2202; Hawaii, 762; Honduras, 2467; Mexico, 2468; Philippines, 2167; South America, 440; Spain, 1145; tropics, 2246–7; U.S.A., 893, 1208, 1440, 1942; advances in the chemotherapy of, 1999, 2475, 2476; histopathology of, 2472; antibiotics in relation to, 349, 657, 956, 1434, 1878, 1985; classification of, 442, 1981; diagnosis of, 3, 657, 1145, 2246, 2469–70; dispersal of, 2243; key to, 2471; recent work on, 586, 2165, 2465–6.
Mycostatin (nystatin), 1441, 2407; assay of, in serum, 1072; production of, from *Streptomyces noursei*, 2753; use of, against *Blastomyces dermatitidis*, 2253; *Candida albicans*, 1352, 1574, 1877, 1896, 1616–1618, 2128, 2130–2133, 2140, 2253, 2379, 2391, 2396, 2399, 2406, 2408–2411, 2516; *C. pseudotropicalis*, 1594; *Coccidioides immitis*, 1523, 2253; *Cryptococcus neoformans*, 2253; *Histoplasma capsulatum*, 1850, 2253; moniliasis, 2405; mycoses, 225; post-antibiotic mycoses, 1985; *Sporotrichum schenckii*, 1428, 2253.
Mycotic eczema of man in Germany, 1692.
Mycothricin, production of, from *Streptomyces ruber* and use of, against fungi pathogenic for man, 922.
— A & B, production of, from *Streptomyces lavandulae* and use of, against *Candida*, 2146.
Mycotoxicoses of animals, book on, 2245.
Mykohexan, use of, against *Candida* and *Microsporum*, 1399.
Mykozem, use of, against dermatophytes, 414.
Myrothecium verrucaria, production of dermatitic compounds from, 2189.
Myvizone, see Thiosemicarbazones.
Myxal, use of, against dermatophytes, 1374, 1647, 1939.

N-butyl-3-phenylsalicylamide, use of against dermatophytes, 2319.
N(1)-ethyl-mercury-albucid, use of against *Candida albicans* and *Trichophyton mentagrophytes*, 1340.
N-methyl-mercury-aristamid, use of against *Candida albicans* and *Trichophyton mentagrophytes*, 1340.

N-(1-naphthyl)-ethylendediamine, toxicity of, to *Histoplasma capsulatum* and *Paracoccidioides brasiliensis*, 2002.
N-phenyl-N-benzyl-4-amino-1-methylpiperidin, see Soventol.
Naphthoquinone derivatives; toxicity of, to dermatophytes, 1943.
β-naphthylthioglycolic acid, use of against *Candida albicans* and *Trichophyton gypseum*, 934.
Neo-antergan, use of against dermatophytes, 410.
Neoarsphenamine, use of against *Histoplasma capsulatum*, 1273.
Neomycin, 201; inhibition of *Actinomyces israeli* by, 2019; of *Cryptococcus neoformans* by, 1507; innocuous to mice, 2379; stimulation of *Candida albicans* by, 207; use of, against *Actinomyces israeli*, 1743; *Trichophyton mentagophytes*, 207; for isolation of *Candida*, 1301.
— B sulphate, 307.
Neosalvarsan, use of against *Histoplasma capsulatum*, 80; moulds, 257.
Neoteben, use of against *Candida albicans*, 1584.
Neuro-dermatitis of man, differentiation of *Trichophyton rubrum* infection from, 389.
Nicetin, use of, against dermatophytosis, 2325.
Nidulin, production of, from *Aspergillus nidulans*, and use of, against *Microsporum audouini* and *Trichophyton tonsurans*, 636.
Ninhydrin, use of against *Trichophyton rubrum*, 2203.
Nipasol, effect of, with antibiotics on *Epidermophyton floccosum*, 886.
Nitrofuran, 1823; use of, against fungi isolated from the genital tracts of mares, 2372.
5-Nitro-2-furfuryl-3-chloropropionate derivatives of nitrofuran, 1823; use of against *Coccidioides immitis*, 1823.
Nitrostyrenes, use of against fungi pathogenic for man, 1160.
Nocardia in soil, a lymphocytopenia-producing factor from, 2008.
— on the dog in U.S.A., 1470.
— on man in Paraguay and U.S.A., 1472.
—, utilization of carbon compounds by, 1164.
— *africana* synonym of *N. pelletieri*, 671; use of 2:4:5-trichlorophenoxyacetic acid impurity against, 142.
— *asteroides*, cell wall of, 1735; colchicin in relation to, 1148; effect of H-ion conc. on, 1166; electron microscopic study on, 1909; histological study on, 1746; morphological study on, 1706; physiology of, 679, 1163; saprophytism in relation to the epidemiology of, 1141; synonymy of, 671; toxicity of filipin to, 1430; use of amino steroids, 451; blocked steroids, 447; chlorquinaldol, 1966; colchicin, 1437; synkayvite, 2106; and 2:4:5-trichlorophenoxyacetic acid impurity, 142, against.
— — on cattle in Australia, 1471; Italy, 2016; causing abortion, 1468.
— — on the dog, 1468; in Eritrea, 953; Hawaii, 952; U.S.A., 22, 1469, 1750; review of, 1986.
— — on man, Belgian Congo, 1078; Brazil, 468; Canada, 656; (?) Ecuador, 1634; France, 1453–4, 1737; Germany, 930, 947, 2256; Great Britain, 1179, 2258; Hungary, 2480*a*; Mexico, 466; New S. Wales, 652; N. America, 1140; Philippines, 2167; Queensland, 219; S. Africa, 1154; U.S.A., 16, 218, 661, 684, 937, 1165, 1169, 1435, 1444–5, 1993, 2012–13, 2250, 2263–2265, 2480*b*, *c*; affecting abdomen, 1165; brain, 684, 937, 1444–5, 1453–4; chest, 2258; eye, 2263; feet, 218, 1078, 1634; head, 219; knees, 2265; leg, 2013, 2265; lungs, 653, 656, 684, 930, 937, 1179, 1445, 1993. 2000, 2012–13, 2167, 2250, 2262, 2264, 2480*c*; nervous system, 1169, 1737, 2480*a*; pleura, 684; skin, 1435; spleen, 2265; subcutaneous tissues, 684; associated with Hodgkin's disease, 947; childhood infection of, 2262; culture of, 468; diagnosis of, 653, 1445, 2250; effect of aureomycin on, 1460; isolation of, from sputum, 661; occupational nature of, 2256; serology of, 958; therapy for, 1448, 2000; use of acromycin, 2263; antibiotics, 937; moldin, 206; oxytetracycline, 1165; penicillin, 1165, 1444; penicillin and streptomycin, 16; potassium iodide, 1165; pregnenolone acetate, 218; sulphodiazine, 1165, 2012–13, 2265; sulphonamides, 937, 1445, 2264–5; and terramycin, 468, against.
[*Nocardia*] *brasiliensis* a valid species, 671; studies on, 1706, 1746, 2478; *N. mexicana* synonym of, 671; physiology of, 1163; production of L-2 from, 672; use of synkayvite against, 2106.
— — on man in Brazil, 468, 2505*b*; Belgian Congo, 2158; Mexico, 466, 467, 669–70, 672, 942, 1007, 2020, 2505*a*; U.S.A., (?) 449, 1444; Venezuela, 2481; affecting chest, 942, 2481; knee, 449, 2158; leg, 2020; lung, 466, 942, 1444; thorax, 466; comparison of *Actinomyces israeli* and, 942; culture of, 467, 468; diagnosis of, 672; in relation to *Actinomyces israeli*, 669–70; L-2 in relation to, 672; pregnonelone ineffective against, 2020; suggested regrouping of, 669–70; use of diaminodiphenyl-sulphone, 467, 669, 942, 2256; DDS, 466; ethyl vanillate against, 1007; penicillin, 1444; sulphadiazine, 1444; and terramycin, 468, against.
— *carnea* synonym of *Nocardia asteroides*, 671.
— *farcinica*, physiology of, 679.
— *genesi*, identification of, with *N. pelletieri*, 1746.
— *gypsoides* on man in S. Africa, 1154.
— *keratolytica*, cultural study on, 1472.
— *leishmanii* synonym of *N. asteroides*, 671; colchicin in relation to, 1148, 1437; physiology of, 679.
— *lutea*, physiology of, 679, 949.
— *madurae*, see *Streptomyces madurae*.
— *mexicana* synonym of *N. brasiliensis*, 671.
— *minutissima* on man in Canada, 131; U.S.A., 634; age in relation to, 1378; technique for examining, 1150.
— *paraguayensis*, affinities of, 671, 1746.
— *pelletieri* and valid species, 671.
— —, *N. africana* synonym of, 671; *N. genesi* identical with, 1746.
— *rubra*, physiology of, 679, 949.
— *sebivorans* on man in Greece, 1740.
— *somaliensis*, 671; study on, 1746.
— *tenuis* on man in Canada, 131; physiology of, 679.
— *transvalensis*, cultural study on, 1472.
Nocardiosis in the cat in Turkey, 241.
— of man in Hawaii, 762; Spain, 667; U.S.A., 16.
— of marsupials in Queensland, 688.
Nor-nidulin, ustin renamed, 636.
Novex, see 2, 2′-dioxy-5, 5′-dichlorodiphenylsulphide.
Nydrazid, use of against *Actinomyces israeli*, 1741.
Nystatin, see Fungicidin, Mycostatin.

Oestrogen, use of, against *Coccidioides immitis*, 1817.
Oidium pullorum on the turkey in U.S.A., 455.
Oil of rosemary, use of, against *Microsporum gypseum*, 607.
— — sassafras, use of, against *Coccidioides immitis*, 1817.
Oleum sabinae, use of, against *Absidia corymbifera*, 839.
Oligomycin, inhibition of fungi by, 925; production of, from (?) *Streptomyces diastatochromogenes*, 925.
'Omega', use of, against *Candida albicans*, 1593.
Onychomycosis, see Tinea unguium.
'Onychomycosis nigricans' of man in Germany, 1786.
Oospora lactis, see *Geotrichum candidum*.
— *virescens*, antibiotic effect of, on pathogenic fungi, 825.
Opossum, *Histoplasma capsulatum* on the, in U.S.A., 1294.
—, *Trichophyton mentagrophytes* on the, in U.S.A., 2328.
Organidin, use of, against *Sporotrichum schencki*, 1133.
Ortho HL614, use of, against dermatophytes, 635.
Osteomyelitis of man, *Actinomyces israeli* causing, 224, 225.
Otomycosis of man in S. Africa, 1154; review of dermatophytes causing, 2322.
Ovitrol, use of, against dermatophytes, 1371, 1698, 2326.
Oxine, toxicity of, to *Histoplasma capsulatum* and *Paracoccioides brasiliensis*, 2002.
— with metal salts, use of, against dermatophytosis, 633.
Oxyquinoline sulphate, component of 'acijel', 1587.
8-Oxyquinoline+antibiotics, use of, against *Candida albicans*, 1337.
Oxytetracycline, see Terramycin.

P-594, use of, against dermatophytosis, 639.
P-968, use of, against *Cryptococcus neoformans*, 269.
Papularia sphaerostrana in relation to cane disease of man in Algeria, 2033.
Para-aminobenzoic acid, use of, against *Candida albicans*, 350; *Coccidioides immitis*, 1005.
Para-aminosalicylic acid, use of, against *Blastomyces dermatitidis*, 961.
Para-oxybenzoic alkyl esters, use of, against *Candida albicans*, 2141.
Paraben, inhibition of *Cryptococcus neoformans* by, 1507.
Parabens, 1441, 2051, 2252; use of, against *Candida*, 806, 1341, 1900, 1901, 2391.
Paracoccidioides, taxonomy of, 2473.
— *brasiliensis*, antigenic relationship of *Blastomyces dermatitidis* and, 964; chemicals fungistatic to, 2002; electrophoretic studies on antigen of, 1899; electron microscopy study on, 1909; mycelial phase of, 983; serology of, 2463, 2564; storing cultures of, 2560; use of pentamidine, 453; propamidine, 453; sodium sulphadizine, 717; sulpha, 1231; sulphadiazine, 1230, 1234, 1235; and sulphonamide, 1232, against; yeast phase of, 983.
— — on the hamster, experimental infection of, 55, 1515.
— — on man, 1139; in Argentina, 54, 196, 985, 1231, 1511, 1514, 2563, 2565; Brazil, 55, 282–3, 503–505, 715–16, 986, 1230, 1232, 1234–5, 1512, 2060, 2084, 2557–2561, 2567–2569, 2571; Colombia, 56; Costa Rica, 713; Ecuador, 718, 719; France, 1995; French Guiana, 1510; Germany, 930; Italy, 1509; Panama, 2058; Peru, 2566; S. America, 440, 714; Surinam, 281; Uruguay, 1076; U.S.A., 1233, 1996; Venezuela, 278–9, 717, 2057, 2059, 2248, 2570; affecting ano-rectal mucosa, 279; bones, 2570–1; face, 281; feet, 505; forehead, 1509; genitals, 2569; intestines, 279; larynx, 279, 1230–1, 1511; leg, 2058; lungs, 7, 279, 282–3, 719, 930, 1231, 1233–4, 1994, 2059; lymph nodes, 56, 717, 2059; mouth, 279; nasal fossae, 1510; neck, 1509; perianum, 1235; respiratory system, 504; skin, 54; tonsils, 279, 503; viscera, 56; vocal cords, 1232, 1512; bibliography on, 2558; causing paradentosis, 278; conversion of, from mycelial to yeast-like phase, 769; culture of, 279; diagnosis of, 7, 2057; (?) endosporulation in, 713; electron-microscopic study of, 1514; histoplasmin reaction in, 2084; isolation of, from buccal mucosa, 718; sputum, 56, 279, 718; monograph in, 2557; morphology of, 280, 1706, 1996, 2562; paracoccidioidin in relation to, 714–15, 1076; pathogenesis of, 1728; polymorphism in, 54; review of, 716, 984; simulating Hodgkin's disease, 717; use of antibiotics, 279; cortisone, 282; diaminodiphenylsulphone, 1510; penicillin, 719, 985; streptomycin, 985; sulpha, 283, 1511–12; sulphadiazine, 56, 279, 1511; sulphamericana, 1511; sulphathiazole, 279; sulphonamides, 985; triosulun Squibb, 1511; and vitamin B2, 54, against.
[*Paracoccidioides*] *immitis*, see *Coccidioides immitis*.
— *tenuis* on man in U.S.A., 1996.
Paracoccidioidin, see *Paracoccidioides brasiliensis*.
Paradentosis, *Paracoccidioides brasiliensis* causing, in Venezuela, 278.
Parke Davis CMA 37, use of, against *Coccidioides immitis*, 1004.
P.A.S., use of, in identifying fungi in tissues, 756, 1310, 2233.
Pea crab, see *Pinotheres pisum*.
Penicillin, 234, 427, 545, 552, 1721; effect of, on fungicides, 886; in relation to aspergillosis, 244, 691, 1197, 1760; *Candida albicans*, 100, 350, 810, 824, 1064, 1197, 1323, 1333, 1336, 1353, 1572, 1573, 1575, 1583, 2112, 2388; *Candida krusei*, 355, 1353, 1572; *C. pseudotropicalis*, 806; dermatophytes, 898; dermatophytosis, 128; diseases of the skin sensitized by *Candida*, 337; moniliasis, 806, 808, 829; *Saccharomyces cerevisiae*, 355; *Torulopsis rubra*, 824; *Trichophyton concentricum*, 870; yeasts, 358; production of, by *Trichophyton mentagrophytes*, 2187; use of, against *Actinomyces bovis*, 20, 1464; *A. graminis*, 213; *A. israeli*, 10, 11, 15, 145, 217, 221, 225–6, 230–1, 233, 235, 237, 456, 457, 463–465, 669, 673, 680, 682, 938–9, 942–3, 948, 1173, 1176, 1183, 1186, 1442, 1448–9, 1450, 1455–6, 1465, 1738, 2010–11, 2018, 2259–60; actinomycosis, 10, 214, 239, 1169, 1180, 1745; aspergillosis, 480; *Aspergillus fumigatus*, 245, 2355; *Blastomyces dermatitidis*, 1789; bovine mastitis, 115; *Candida*, 1358; *C. albicans*, 104, 107, 231, 350, 352, 1313, 1325; *Cryptococcus neoformans*, 272, 747, 821, 1227, 1789, 2051; *Fusocillus girans*, 2010; *Histoplasma capsulatum*, 1557; *Microsporum audouini*, 145; mycetoma, 335, 1077; *Nocardia asteroides*, 1165, 1444, 1448; *N. brasiliensis*, 942; nocardiosis, 16, 688; *Para-*

coccidioides brasiliensis, 985; *Trichophyton gypseum*, 145; *T. interdigitale*, 145, 151; *T. schoenleini*, 145; *T. rubrum*, 151; trichophytosis, 1660; use of, in culturing dermatophytes, etc., 409, 801.
[Penicillin] F.G.X., use of, against *Malassezia furfur*, 425.
— G, use of, against *Paracoccioides brasiliensis*, 719.
Penicillium, cortisone in relation to, 660.
— on cattle, (?) causing sterility, in Austria, 28.
— *bacillosporum* on man in Holland, 1156.
— *chrysogenum*, 372; on man, use of moldin against, 206.
— *crustaceum*, antibiotic effect of Oospora virescens on, 825.
— *funiculosum* strain C20-A, antibiotic activity of, 924.
— *glaucum* on man in Germany, 2310.
— *marnettei* [nom nud.] on *Rhizomys sinensis* in Viet-Nam, 2584.
— *notatum*, action of actamer on, 871.
— *spinulosum* on man in Belgium, 689.
Penotrane, use of, against *Aspergillus fumigatus* and *Candida albicans*, 116; tinea pedis, 2300.
Pentachlorophenyl cellosolve, use of, against *Coccidioides immitis*, 1004.
Pentamidine, use of, against *Candida albicans*, 1620, 1907; *Blastomyces dermatitidis*, 454; *Coccidioides immitis*, 454; *Cryptococcus neoformans*, 453, 454; fungi pathogenic to man, 516; *Histoplasma capsulatum*, 453; Madura foot, 1078; *Madurella*, 454; *M. mycetomi*, 2347; *Microsporum audouini*, 454; *Paracoccidioides brasiliensis*, 453; *Sporotrichum schencki*, 454.
Pericarditis of man, *Coccidioides immitis* in relation to, in U.S.A., 512.
Periconia keratitidis on man in Hungary, 663.
Peyronellaea on man, new species of, in Germany, 1151, 2151.
Phaenicia sericata, culture of, 471.
Phaeofacin, use of, against pathogenic fungi, 206.
Phebrocon, use of, against dermatophytosis, 424.
Phebrocon-serol, use of, against *Malassezia furfur*, 123; *Trichophyton interdigitale*, 2223; *o*-phenan throline, use of, against *Histoplasma capsulatum* and *Paracoccidioides brasiliensis*, 2002.
Phenamidine, use of, against *Blastomyces dermatitidis*, *Histoplasma capsulatum*, and *Cryptococcus neoformans*, 453.
Phenergen, use of, against fungi pathogenic for man, 200, 1937.
Phenoxyethyl-dimethyl-dodecylammonium bromide, see Bradosol.
Phenyl-mercury nitrate, use of, against *Microsporum audouini*, 381; *Trichophyton interdigitale*, 1684.
3-, 4-, & 5-Phenylsalicylamide derivatives, use of, against *Candida*, *Microsporum audouini*, and *Trichophyton mentagrophytes*, 2226.
Phialophora compacta on man, 1139; in India, 2352; N. America, 1140; Philippines, 2167, 2351; U.S.A., (?) 286, 989; Venezuela, 722, 2248; actidione in relation to, 1149; affecting foot, 989, 2351; genitals, 2352; lymph nodes, 2352; thigh, 2351; production of parasitic phase of, in culture, 2350; toxicity of filipin to, 1430; use of carbon dioxide, potassium permanganate, gentian violet, potassium iodide, and X-rays, against, 2351.
— *gougerotii*, *Sporotrichum gougerotii* renamed, 2583.
[*Phialophora*] *jeanselmei* on man in Brazil, 2156; Uruguay, 1911; *Torula bergeri* synonym of, 573.
— *pedrosoi* on animals, histopathology of, in Brazil, 1516, 1806.
— — on man, 1139; in Australia, 652; Belgian Congo, 59, 60, 287, 1137; Brazil, 1516, (?) 1806; Costa Rica, 727; England, 1236; Jamaica, 61; New Zealand, 725; N. America, 1140; S. Africa, 1154; U.S.A., 62, (?)286, 724, 726, 1435, 2353; Venezuela, 2248; actidione in relation to, 1149; affecting arm, 61; hand, 61; elbow, 1236, 2353; foot, 62, 287; instep, 59; skin, 1435; cleistothecium-like structure in, 726; culture of, 60, 726; experimental inoculation of, 987; histopathology of, 1806; *P. verrucosa* synonym of, 62; production of parasitic phase in culture, 2350; use of nitrostyrenes, 1160; and potassium iodide, 61, against.
— — on the rat, cortisone in relation to, 759.
— — on the toad, 727.
— — var. *cladosporioides* on man in Venezuela, 722.
— *verrucosa*, antagonism of *Chaetomium globosum* to, 923; 'perithecial' production by, 720; saprophytism in relation to epidemiology of, 1141; use of Geigy 20704 and 21772, 200; lergigan, 200; lisergan, 200; and phenergen, 200, against.
— — on animals, histopathology of, in Brazil, 1516, 1806.
— — on the horse in Turkey, 729, 730.
— — on man, 1139; in Algeria, 988; Brazil, 721, (?) 1806; N. America, 1140; U.S.A., 8, 724, 1435; affecting foot, 988; leg, 988; skin, 1435; histopathology of, 1806; production of parasitic phase in, 2350; synonym of *P. pedrosoi*, 62; use of diparalene and lergigan against, 8.
Phialophoromycosis, see Chromoblastomycosis.
Phloxin B, use of, in staining, 848.
Phosphates, acid, production of, by *Actinomyces israeli* and *A. naeslundi*, 1161.
Pichia dubia and *P. farinosa* on man in Norway, 1295.
— *membranaefaciens*, *Candida mycoderma* form of, 1886.
Piedraia colombiana, synonym of *P. hortai*, 2229.
— *hortai* on man in France, 1710; taxonomy of, 2229.
— *javanica*, *P. paraguayensis*, *P. sarmentoi*, *P. surinamensis*, and *P. venezuelensis*, synonyms of *P. hortai*, 2229.
Pig, blastomycotic dysentery in the, in U.S.S.R., 2155.
—, *Candida catenulata*, *C. guilliermondi*, *C. humicola*, *C. krusei*, and *C. mycoderma* on the, isolation of, from faeces, 2384.
—, *Geotrichum candidum* on the, in Algeria, 1252.
—, *Histoplasma capsulatum* on, in U.S.A., 1291.
—, mycosis of the, in Germany, 1356.
—, *Trichophyton mentagrophytes* on the, in Scotland, 2337.
Pinotheres pisum, *Leptolegnia marina* on, in England, 1723.
Piromen, effect of, on *Candida albicans*, 1619.
— +ST4, use of, against *Candida albicans*, 1619.
Pityriasis versicolor of man see *Malassezia furfur*.
Pityrol, effect of, on *Aspergillus niger* and dermatophytes, 627.
Pityrosporum orbiculare on man in U.S.A., 427.
— *ovale* on man in Belgian Congo, 124; England, 646; France, 426; Japan, 1708; U.S.A., 1136; culture of, 124; associated with pityriasis, 426;

not causing dandruff, 646; 'pityrosporin' in relation to, 429; study on, 1708; types of, 1136; use of fluvomycin against, 921.
[*Pityrosporum*] *pachydermatis* on the elephant in Japan, 1708.
'Plastibase', use of, against *Candida albicans*, 2127.
Platonin, effect of, on *Aspergillus niger* and dermatophytes, 128.
Plectospira dubia on Crustacea and crustacean eggs, 1724.
Pneumocystis carinii, taxonomy of, 2370.
Pneumomycoses of man, 7.
Pneumonia of man, *Candida albicans* associated with, in Sweden, 352.
Podophyllin, use of, against dermatophytes, 155, 156.
Polymyxin B, 2019; inhibition of *Cryptococcus neoformans* by, 1507; *Actinomyces israeli* by, 2019; use of, against *Candida albicans*, 207, 572; *Cryptococcus neoformans*, 269.
Polyvinyl alcohol, use of, against *Microsporum canis*, 1382.
Potassium iodide, 52, 234, 1229; in relation to iodides vegetantes, 2323; sensitivity to, 435; 1133; use of, against *Actinomyces bovis*, 1464, *A. graminis*, 213; *A. israeli*, 221, 235, 463, 683, 943, 1176, 1183, 1465, 2011, 2260; *Aspergillus fumigatus*, 2355; *Blastomyces dermatitidis*, 1209, 1213–14, 1493, 1495, 1789, 2036; *Candida albicans*, 110, 350, 821, 1050, 1313, 1575, 1603, 1894; *C. parakrusei*, 1344; *C. pseudotropicalis*, 1585; *Cryptococcus neoformans*, 1789; chromoblastomycosis, 57, 728; geotrichosis, 1012; *Histoplasma capsulatum*, 80, 1273; moulds, 257; *Nocardia asteroides*, 1165; *Phialophora compacta*, 2351; *P. pedrosoi*, 61; *Rhizopus arrhizus*, 1918; *Rhinosporidium seeberi*, 1635; *Sporotrichum schencki*, 174–5, 179, 180, 184–5, 435, 1134, 1712, 1978; 'thresher's lung', 347; *Trichophyton verrucosum*, 1411; use of, with tyrothricin, 100.
— permanganate, use of, against *Phialophora compacta*, 2351; *Trichophyton mentagrophytes*, 1417, 1953; *T. verrucosum* var. *discoides*, 1417.
Poultry, *Achorion passerinum*, *Aspergillus flavus*, *A. fumigatus*, *Candida albicans*, Mucorineae, and *Trichophyton gallinae* on, in Brazil, 1729.
Pregnenolone acetate, use of, against *Nocardia asteroides*, 218; *N. brasiliensis*, 2020.
Procaine penicillin, use of, against actinomycosis, 1171.
Prodigiosin, use of, against *Coccidioides immitis*, 733, 734.
Progesterone, in relation to *Candida albicans*, 932.
Promizole, use of, against *Coccidioides immitis*, 1001.
Propamidine, use of, against *Blastomyces dermatitidis*, 453, 454, 702, 704; *Coccidioides immitis*, 454; *Cryptococcus neoformans*, 453, 704; fungi pathogenic for man, 516; *Histoplasma capsulatum*, 315, 453, 454, 1276; *Madurella*, 454; *Microsporum audouini*, 454; *M. canis*, 704; *Paracoccidioides brasiliensis*, 453; *Trichophyton rubrum*, 454.
β-propiolactone, effect of, on metabolism of *Blastomyces dermatitidis*, 965; on dermatophytes by, 875; use of, against *Candida albicans*, 1595.
Propionate jelly, use of, against *Candida albicans*, 2134.
Propionic acid, use of, against tinea corporis and pedis, 1980; *Trichophyton rubrum*, 615.
Propylene glycol, use of, against *Coccidioides immitis*, 300; *Candida albicans*, 344.
Propylparaben, use of, against fungi pathogenic for man, 826.
Proteus vulgaris on man, *Candida albicans* associated with, 2120.
Pseudallescheria sheari synonym of *Allescheria boydii*, 94.
Pseudomonas aeruginosa, antibiotic from, 1649; effect of, on growth of some pathogenic fungi, 1381; fungistatic effect of, 1649.
— — on man, *Candida albicans* associated with, 2120.
Pullularia pullulans, electrophoretic studies on antigen of, 1899.
— — on man in Germany, 1895.
Pulmonary intracavitary fungus ball, (?) *Candida* causing, in U.S.A., 2138.
— mycosis of man in Holland, 257; India, 1025; diagnosis of, 192; fungi in relation to, 257, 1025; therapy for, 192; use of creosote, neo salvarsan and potassium iodide against, 257.
Pyribenzamine, effect of, on metabolism of *Blastomyces dermatitidis*, 966; use of against dermatophytes, 410.
Pyridin-3-carbonic acid-oxymethylamide, 657.
Pyrogallic ointment, use of, against microsporosis, 1926.
Pyrrolidino proprionyl phenothiazine, use of, against *Coccidioides immitis*, 1004.

Quartz light rays, use of, against *Microsporum audouini*, 856.
Quaternary ammonium derivatives, use of, as fungicides, 904, 1426.

Rabbit, *Coccidioides immitis* on the, in U.S.A., 1530.
—, *Saccharomycopsis guttulata* on the, in Yugoslavia, 2150.
—, *Trichophyton mentagrophytes* on the, in Spain, 384.
Rat, *Actinomyces bovis* on the, inoculation by the intrathyroid route, 687.
—, *Aspergillus fumigatus* on the, cortisone in relation to, 2510.
—, *Cryptococcus* on the, in Israel, 2041.
—, *Trichophyton mentagrophytes* on the, in U.S.A., 2292, 2328.
Remak, R., 1716.
Report on Animal Health from Ghana, 1988.
Resection of mycotic lesions, 197.
Rhinosporidiosis of man in South America, 440.
Rhinosporidium seeberi on *Alopochen aegyptiacus* in Belgian Congo, 2464.
— — on animals, history of, 1082.
— — on cattle in Argentina, 2573.
— — on *Dendrocygna viduata* in Belgian Congo, 2464.
— — on the dog in Argentina, 2574.
— — on the horse in Argentina, 842, 1635; U.S.A., 1159.
— — on man in Argentina, 842; Belgian Congo, 1137, 1636; Brazil, 2572; Ecuador, 1082; India, 647; Mexico, 926; Philippines, 2167; S. Africa, 1154; S. America, 440; affecting eyes, 647, 926, 1082, 1636; larynx, 647; nose, 647; urethra, 647; history of, 1082.
Rhizomucor parasiticus on man in Hungary, 1733.
Rhizomys sinensis, *Penicillium marneffei* on, in Viet-Nam, 2584.
Rhizopus on man in U.S.A., 2555.
— *arrhizus* on man in U.S.A., 1918.

[*Rhizopus arrhizus*] on the mouse, diabetes in relation to, 2461.
— — on the rabbit, study on, 1628.
— *oryzae* on man in U.S.A., 1628, 2148.
— — on the rabbit, study on, 1628.
Rhodotorula, classification of, 2176; feeding tests on mice with, 2384; the genus, 1968, 1969.
— on animals, 1432.
— on man, 2524; in Argentina, 1969; Austria, 448; Chile, 106; U.S.A., 1968, 1969; isolation of, from blood, 448.
— (?) *bronchialis* on man in France, 169.
— *minuta* on man in Argentina, 1969.
— *mucilaginosa* in soil in New Zealand, 1626.
— — on man in Argentina, 1969; Germany, 1895.
— *rubra* on man in Argentina, 1969; Germany, 1630, 2189.
Rhus javanica gall, effect of, on *Trichophyton mentagrophytes*, *T. pedis*, and *T. rubrum*, 626.
Ricinoleic acid component of 'acijel', 1587.
Rimocidin, assay of, in serum, 1072; use of, against *Cryptococcus neoformans*, 269.
Ringworm of animals in Great Britain, 1721, 2168–2170; in Morocco, 1656; U.S.A., 2328; diagnosis of, 908; infecting man, 2168–2173; survey of, 1655.
— of cattle, in England, 2329; use of hexadecamethylene-1:16-bis (isoquinolinium chloride) against, 2331.
— of the dog in U.S.A., 2334.
— of man, see Tinea.
Rodents, *Coccidioides immitis* on, in U.S.A., 651, 1250.
—, *Endogone*, *E. fasciculata*, and *E. pulvinata* on, in Canada, 1629.
—, *Haplosporangium parvum* on, in England, 2438; Sweden, 2071; U.S.A., 1250.
—, *Histoplasma capsulatum* on, in U.S.A., 1159, 1275.
Rotaventin, production of, from *Streptomyces*, 203.
3,554 R.P. (multergan), use of, against dermatophytosis, 581.

S-oxyquinoline, use of, against *Candida albicans*, 1070.
Sabouraudiella, a genus of the Trichophytoneae, 140.
Sabouraudites, a genus of Dermatophytes, 139.
— *catanei* on man in Belgian Congo, 1922.
— *duboisii* on man, 139, 901.
— *langeroni* on man, 139; in Belgian Congo, 1922–3, 2298.
— *praecox* on man in France, 901.
— *rivalieri* on man, 139; culture of, 402.
Saccharomyces, feeding tests in mice with, 2384; use of *Streptomyces* (?) *antibioticus* antibiotic against, 204.
— on man in Austria, 448; Chile, 106; U.S.A., 450.
— *carlsbergensis* on man in Germany, 2384.
— *cerevisiae*, antibiotics in relation to, 109, 355; multiple budding in, 1996; serology of, 1218, 1309, 2376.
— — on man in Germany, 1895; Norway, 1295.
— *fragilis* on man in Hungary, 2370; Norway, 1295; *Pneumocystis carinii* synonym of, 2370.
— *marxianus*, *S. rouxii* var. *polymorphus*, *S. scandinavicus*, *S. veronae* var. *osloensis*, *S. verticillatus*, and *S. vossii* on man in Norway, 1295.
Saccharomycopsis, 42.
— *guttulata* on the rabbit in Yugoslavia, 2150.
Saccharomycosis of man in Italy, 1321.
Salicyl ointment, use of, against dermatophytes, 418, 856.
Salicylaldoxim, toxicity of, to *Histoplasma capsulatum* and *Paracoccioides brasiliensis*, 2002.
Salicylamide, use of, against *Candida albicans*, 1584; *Microsporum audouini* and *Trichophyton mentagrophytes*, 2227.
Salicylanilide, use of, against dermatophytes, 412, 1387, 1662, 1671, 2214.
Salicylated vaseline, use of, against tinea, 2210.
Salicyl-resorcin, use of, against *Microsporum audouini*, 855.
Salicylic acid, use of, against *Aspergillus* spp., 1757; *Microsporum gypseum*, 607; onychomycosis, 1921; tinea pedis, 1938; *Trichophyton concentricum*, 136, 869; *T. interdigitale*, 607; *T. mentagrophytes*, 609, 1687; *T. rubrum*, 136, 609, 615, 2320; *T. sabouraudi*, 607.
— acid-sulphur, use of, against *Microsporum audouini*, 1102.
— iodide, use of, against *Microsporum canis*, 1930.
Salundeck, use of, against *Epidermophyton floccosum*, 1971.
—, new improved, use of, against *Microsporum audouini*, 2214.
Sanguisorba officinalis root extract, effect of, on *Aspergillus niger*, 626.
Sarcoidosis of man, 309; in U.S.A., 556; effect of *Candida albicans* and *Trichophyton mentagrophytes* extracts on, 556.
Scheroson-F-compositum, use of, against dermatophytosis, 2213.
Scopulariopsis on man in Germany, 642.
— *blochii* on man in Hungary, 664.
— *brevicaulis* on man in Austria, 1702; Germany, 126, 642, 1112; Great Britain, 841, 1083, 1703; U.S.S.R., 840; referred to *Mastigosporium blochii*, 1702.
— — var. *hominis* on man in Germany, 642.
— *fusca* on man in Germany, 126, 642.
(?) — *insolita* on man in France, 1919.
Senkobo disease of cattle in Northern and Southern Rhodesia, 2267, 2268.
Sepedonium sp. in relation to *Histoplasma*, 2552.
Serum bicarbonate, use of, against *Candida albicans*, 1313.
Sheep, *Actinomyces dermatonomus* on, in Great Britain, (?) 1752–3; New Zealand, 240; comparison of, with *Streptothrix bovis*, 2266–7.
—, *Aspergillus fumigatus* on, 2030.
—, *Coccidioides immitis* on, in U.S.A., 651, 1010.
—, dermatomycosis of, in Poland, 2499*a*.
—, *Histoplasma capsulatum* on, in U.S.A., 651, 788, 1291.
—, *Trichophyton granulosum* on, in France, 2174, 2336.
—, — *pruinosum* and *T. verrucosum* var. *discoides* on, in France, 2174.
—, — *verrucosum* var. *ochraceum* on, in France, 2499*b*.
Shoes and shower stalls, *Epidermophyton floccosum*, *Trichophyton mentagrophytes* and *T. rubrum* on, in U.S.A., 874.
Shrimp, yeasts on the, in Gulf of Mexico, 118.
Silicone, use of, against *Candida albicans*, 2143.
Silver nitrate, 1431; use of, against *Trichophyton rubrum*, 2295.
— salts, use of, against *Cryptococcus neoformans*, 2053.
Skin, normal, fungi on in Austria, 1643.
Skunk, *Histoplasma capsulatum* on, in U.S.A., 1294, 1559.

Sodium azide, mechanism of action of, on *Candida*, 1071.
— caprylate, use of, against *Candida albicans*, 344, 1302, 1316, 1339; pulpless tooth infection, 202.
— ethyl mercurisalicylate, use of, against *Candida albicans*, 1576.
— hydroxide, inhibition of *Cryptococcus neoformans* by, 1507.
— iodide, use of, against *Blastomyces dermatitidis*, 1493; *Sporotrichum schencki*, 1978.
— lauryl sulphate, toxicity of, to *Candida albicans* and dermatophytes, 1964; use of, against *Microsporum audouini* and *M. canis*, 602.
— propionate, toxicity of, to *Candida albicans* and dermatophytes, 1964; use of, against *Trichophyton mentagrophytes*, 1687.
— sulphadiazine, use of, against *Paracoccidioides brasiliensis*, 717.
— sulphite, use of, in studying nail and squamae fungi, 367.
— undecylenate, use of, against pulpless tooth infection, 202.
Soil, *Allescheria boydii* in, in Panama, 1253, 1722; U.S.A., 1722.
— as a storage medium for fungi, 578; as natural reservoir for human pathogenic fungi, 1722.
—, *Candida albicans*, *C. brumptii*, and *C. parapsilosis* in, in New Zealand, 1626.
—, *Coccidioides immitis* in, 1432; in U.S.A., 508, 1722, 1822, 2068.
—, *Cryptococcus* in, in Israel, 2041.
—, — *neoformans* in, in Hawaii, Nigeria, and U.S.A., 1722.
— fungi in relation to man, 1432, 1722.
—, *Haplosporangium parvum* in, in U.S.A., 1251.
—, *Histoplasma capsulatum* in, 2091; in French Guiana, 1551, 2445; French Guinea, 2076; Japan, 540; Panama, 1253, 1722; Peru, 1722, 1828; U.S.A. 304, 400, 536, 545, 765, 1258–9, 1275, 1291, 1293, 1722, 2075, 2097; Venezuela, 1722, 1829.
—, *Keratinomyces ajelloi* in, in Belgium, 906, 2196; New South Wales, 1679, 2283; Turkey, 906; U.S.A., 600.
—, *Microsporum gypseum* in, in Canada, 1722; Cuba, 2282; Hawaii, 2281; New South Wales, 1679, 2283; Panama, 1253, 1722; U.S.A., 400, 536, 597, 600, 1259, 1722, 2332.
—, *Nocardia* in, a lymphocytopenia-producing factor from, 2008.
—, *Penicillium funiculosum* strain C20-A in, antibiotic activity of, 924.
—, *Rhodotorula mucilaginosa* in, in New Zealand, 1626.
—, *Trichophyton mentagrophytes* in, in caves in S. Africa, 1945, 2272.
Solusupronal, use of, against *Actinomyces israeli*, 1456; *Candida albicans*, 1317.
Sopronol+M11, use of, against tinea pedis, 1973.
Soventol, use of, against *Trichophyton interdigitale*, 1423.
Soventol-salicylate, a component of multifungin, 1972.
Spergon, effect of, on masking of fluorescence under Wood's light, 158; use of, against dermatophytes, 157, 158.
Sphaerita hoari on *Eremoplastron bovis*, 1920.
Sporotrichosis of man, 2, 439, in S. Africa, 1154; S. America, 440.
Sporotrichum councilmanii on man in Hungary, 664.
— *gougerotii* on man in Switzerland, 913, 1135; U.S.A., 436, 1429; renamed *Cladosporium gougerotii*, 1977; *Phialophora gougerotii*, 2583.
[*Sporotrichum*] *schencki*, 1891; antagonism of *Chaetomium globosum* to, 923; antityrosinase activity in, 2287; culture of, 434–5, 2090; distribution of radioactive iodine, in experimental infection by, 1529; effect of *Bacillus chitinovorus* chitinase on, 1408; mycostatin on, 1428; on tyrosine-tyrosinase reaction, 1379; electron microscopy study on, 1909; electrophoretic studies on antigen of, 1899; *Escherichia coli* inhibiting, 446; isolation of, 1983; production of mycoticin by, 922; physiology of, 187; radioautographic study of, using radioactive iodine, 2232; saprophytism in relation to epidemiology of, 1141; serology of, 1715, 1975, 1976, 2230; sporotrichin test for, 1427; toxicity of filipin to, 1430; use of badionol, 1714; chlorquinaldol, 1966; mycostatin, 2253; mycoticin, 922; pentamidine, 454; propamidine, 454; stilbamidine, 454, 914; sulphathiocarbamide, 1714; surfen, 1714; terramycin, 151; terreic acid, 694; and 2:4:5-trichlorophenoxyacetic acid impurity, 142, against; yeast phase of, 434.
— — in soil, 1432.
— — on animals, 1432; antibiotics in relation to, 98.
— — on the cat in U.S.A., 650.
— — on the dog in, 1711.
— — on the hamster, asteroid forms of, 915.
— — on the horse in U.S.A., 1159.
— — on man, 7, 1139, 1994; in Argentine, 196; Australia, 175, 652, 1979; Brazil, 432, 433, 1131, 1132, 1427, 2231, 2575, 2577–2582; Canada, 1712; China, 1978; France, 1713, 2576; French Guinea, 178; Germany, 1151; Great Britain, 1940; Hawaii, 762; Mexico, 926, 1713; New South Wales, 180; N. America, 1140; S. Africa, (?)1154, 1713; S. America, 440; Uruguay, 1076; U.S.A., 8, 173, 174, 179, 184–5, 188, 435, 648–9, 650, 914, (?)927, 1133–4, 1435, 1439, 1713, 1982, 2233, 2249–50; affecting the arm, 174–5, 179–80, 184–5, 914, 1131, 1133, 1712, 1978; bone, 927; elbow, 178; eye, 926; face, 649, 2231; finger, 174–5, 1712; hand, 179–80, 185; lung, 1439, 1978, 1994, 2000, 2250; neck, 649; wrist, 1979; bacillary phase of, 432; conversion of, from mycelial to yeast-like phase, 769; culture of, 176–7, 180–1, 187, 432; diagnosis of, 183, 2233, 2250; factors affecting, 650; forms of, 1132; infection from cat, 650; hay, 648, 650; straw, 2231; thorns, 2231; isolation of, from pus and sputum, 1978; membrane of, 194; morphological study on, 1996; occupation, all hazards in relation to, 443, 658, 1940; reviews of, 1713, 1982; serology of, 1427; sporotrichin in relation to, 1076, 1427; streptomycin in relation to, 100; unusual case of, 1134; up-to-date therapy for, 2000; use of candicidin, 205; diparalene, 8; Geigy, 20704, 21772, 200; glycerine, 175; glucantime, 1131; ichthyol, 175; iodide, 649; iodine, 435; lergigan and lisergan, 200; mercuric chloride, 175; organidin, 1133; phenergen, 200; potassium iodide, 174–5, 179–80, 184, 435, 1133–4, 1712, 1978; sodium iodide, 1978; sulphonamides, 173; sulphone, 178; typhoid vaccine, 185; tyrothricin, 100; X-rays, 1133; and zinc oxide, 78, against; yeast phase of, 176, 181–183, 1979.
Stachybotrys alternans on animals in U.S.S.R., 2245.

Staphylococcus culture filtrates, use of against *Trichophyton rubrum*, 1693.
— *albus* and *S. aureus*, symbiosis of, with fungi, 101.
Steroid hormones, microassay of, antifungal properties of, 836.
Steroids, amino, use of against *Candida albicans*, *Nocardia asteroides*, *Sporotrichum schencki*, *Trichophyton mentagrophytes*, and *T. rubrum*, 451.
—, blocked, use of as anti-mycotic agents, 447.
Sterosan, see dichloroxyquinaldine.
STH, use of against *Candida albicans*, 2144.
STH+piromen, use of against *Candida albicans*, 1619.
Stibonic acid RO2–3094, use of against *Cryptococcus neoformans*, 981.
Stilbamidine, use of, against *Actinomyces israeli*, 13; *Blastomyces dermatidis*, 50, 51, 258–260, 453–4, 484–489, 702–704, 961, 963, 967, 1203, 1205, 1209–10, 1488, 1496, 1780–1782, 1785, 2039, 2366; *Candida albicans*, 704; *Coccidioides immitis*, 294, 1004, 1006; *Cryptococcus neoformans*, 260, 704, 747, 750, 935; *Epidermophyton floccosum*, 704; fungi pathogenic to man, 516; *Histoplasma capsulatum*, 453, 454, 2104; *Madurella*, 454; *M. mycetomi*, 2347; *Nocardia asteroides*, 935; *Paracoccidioides immitis*, 2002; *Sporotrichum schencki*, 454, 914, 935; *Trichophyton rubrum* and *T. schoenleini*, 935.
Straw, *Endogone fasciculata* on, in Canada, 1629.
Streptomyces, microscopical study of, 460; production of azaserine from, 452; of M11 from, 1973; of mycolutein from, 1997; utilization of carbon compounds by, 1164.
— *albidoflavus*, antibiotic products in cultures of, 625.
— *albus*, physiology of, 679; production of thiolutin by, 422.
— —, relation of *Nocardia paraguayensis* to, 671, 1746.
— — on man in France, 1637; Germany, 119.
— (?) *antibioticus*, antibiotic from, and use of against *Saccharomyces* and *Trichophyton*, 204.
— *aureus*, production of antibiotic 3569 from, 208.
— *canescens*, production of ascosin by, 792, 2105.
— (?) *diastotochromogenes*, production of oligomycin by, 925.
— *galtieri*, 686.
— *griseocarneus*, production of antibiotic resembling rotaventin by, 203.
— *griseus*, *Nocardia paraguayensis* related to, 671.
— *hachijoensis*, production of trichomycin (q.v.) from, 1436.
— *lavendulae*, *Nocardia paraguayensis* related to, 671; mycothricin A and B produced from, 2146.
— *madurae*, *Actinomyces brumpti* and *Discomyces bahiensis* synonyms of, 1746; antibiotic action of, 679; a valid species, 1746; characteristics of, 2478; electron microscopic study on, 1909; histological study on, 1746; morphology of, 1706; physiology, 679; use of diaminodiphenyl sulphone against, 2257.
— — on man in Cuba, 2504*c*; Mexico, 466; Morocco, 2504*a*; Senegal, 2344; (?) U.S.A., 2015; affecting brain, 2504*d*; radiological study of, 2504*b*.
— *noursei*, production of mycostatin from, 2253.
— *paraguayensis*, characteristics of, 2478.
— *pelletieri*, characteristics of, 2478; physiology of, 679.
[*Streptomyces pelletieri*] on man in Mexico, 466; Senegal, 2344; Sudan, 1910.
— (?) *phaeochromogenus*, production of moldin and phaeofacin by, 206.
— *reticuli*, production of rotaventin by, 203.
— *roseoflavus*, production of mycelin by, 210.
— *somaliensis*, physiology, 679.
— — on man, 2349; in the Sudan, 1910; use of terramycin on, 2349.
Streptomycin, 226, 427, 545, 552; in relation to *Candida albicans*, 100, 350, 810, 1310, 1336, 1431, 2112; *C. pseudotropicalis*, 806; *C. tropicalis*, 1335; *Coccidioides immitis*, 100; dermatophytes, 898; *Histoplasma capsulatum*, 100; moniliasis, 806, 808, 829; *Sporotrichum schencki*, 100; *Trichophyton concentricum*, 870; *T. mentagrophytes*, 100; *T.* sp., 898; use of, against *Actinomyces israeli*, 11, 673, 683, 1173, 1176, 1183, 1442, 1450, 1456, 1465; actinomycosis, 1745; *Blastomyces dermatitidis*, 961; *Candida albicans*, 104, 352, 831, 1055, 1333, 1572; *C. parapsilosis*, 831; *C. krusei*, 1572; *Cryptococcus neoformans*, 760; *C. luteolus*, 2051; mycetoma, 335; *Nocardia asteroides*, 16; *Paracoccidioides brasiliensis*, 713, 985, 1227; use of, in culturing, 801; in culturing dermatophytes, 409.
Streptothricosis of cattle in French W. Africa, 2268; Nigeria, 2004; comparison of, with Senkobo disease, 2268.
Streptothrix bovis on cattle, in French W. Africa, 2268; S. Africa, 2267; comparison of, with *Actinomyces dermatonomus*, 2266.
Stysanus stemonites in mushroom houses in England allergic to man, 1769.
Succinyl sulphathiazole in relation to *Candida albicans*, 1575.
Sulfisoxazole, use of against *Trichophyton tonsurans* on man, 1701.
Sulphadiazine in relation to *Candida albicans*, 1880; use of, against *Actinomyces israeli*, 217, 230, 1448, 2260; actinomycosis, 1169; *Cryptococcus neoformans*, 747, 970, 1217; *Histoplasma capsulatum*, 308, 1038, 1558, 1866; mucormycosis, 1075; mycetoma, 1077; *Nocardia asteroides*, 1165, 1448, 2012–13, 2265; *N. brasiliensis*, 1444; *Paracoccidioides brasiliensis*, 56, 279, 1230; 1234–5, 1511.
Sulpha drugs, use of, against *Actinomyces israeli*, 1738; *Candida albicans*, 1894; *Paracoccidioides brasiliensis*, 283, 504, 1231, 1511–12.
Sulphamericana, use of, against *Paracoccidioides brasiliensis*, 1511.
Sulphamethazine, use of against *Paracoccidioides brasiliensis*, 1511.
Sulphamides, use of, against *Blastomyces dermatitidis*, 713, 1789; *Candida albicans*, 1313, 1620; *Cryptococcus neoformans*, 1789; *Histoplasma capsulatum*, 1555.
Sulphapyrimidine, use of, against *Actinomyces israeli*, 939.
Sulphatriad, use of, against *Madurella grisea*, 2345.
Sulphite reduction by *Candida*, 561.
Sulpho-salicylic acid, use of, against *Trichophyton mentagrophytes*, 1400.
Sulphonamides in relation to aspergillosis, 244; use of, against *Actinomyces israeli*, 230, 233, 235, 456, 2018; actinomycosis, 9, 1180; *Aspergillus fumigatus*, 245; *Cryptococcus neoformans*, 745, 1227; *Histoplasma capsulatum*, 1267; *Madurella grisea*, 2345; *Malassezia furfur*, 425; *Nocardia asteroides*, 937, 1445, 2264, 2265; *N.* (?) *madurae*, 2015; *Paracocci-*

oides brasiliensis, 985, 1232; *Sporotrichum schencki*, 173; *Trichosporon cutaneum*, 119.
Sulphone, use of, against *Sporotrichum schencki*, 178.
Sulphosuccinic acid, use of, against *Trichophyton rubrum*, 615.
Sulphur, use of, against *Microsporum canis*, 1934; tinea capitis, 2212; *Trichophyton rubrum*, 2320.
Suprathricin, inhibition of *Actinomyces israeli* by, 2019.
Supronal, use of, against *Actinomyces israeli*, 231, 680, 682, 946, 2011; *Candida albicans*, 1584, 1714.
Surfen, use of, against *Candida albicans*, 1584, 1714; *Sporotrichum schencki*, 1714.
Synkayvite, use of, against *Histoplasma capsulatum* and other fungi, 2106.
Syntestrim, use of, against *Blastomyces dermatitidis* and *Cryptococcus neoformans*, 1789.

2-4-5 T, pH in relation to toxicity of, to *Trichophyton*, 638.
Targesin, use of, against *Candida albicans*, 1584.
Tarsonemus contaminating cultures, 665, 862.
Technique for the assay of fungicides, 614, 1685, 1687; culturing *Actinomyces israeli*, 1172; *Aspergillus fumigatus*, 2023; *Blastomyces dermatitidis*, 2090; *Candida*, 564; *C. albicans*, 341, 567, 2090; *Coccidioides immitis*, 2090; *Cryptococcus neoformans*, 2090; dermatophytes, 129; *Histoplasma capsulatum*, 527, 2090; *Sporotrichum schencki*, 176, 177, 2090; demonstrating *Cryptococcus neoformans* in CSF, 2426; with fountain pen ink, 1522; *Histoplasma capsulatum* and *Microsporum gypseum* in soil, 400; detecting *Candida albicans*, 1308–9, 1881; fungi in sputum samples, 657; skin scrapings, hair, etc., 1085; *Histoplasma capsulatum* and other fungus spores, 536; determining antibiotic sensitivities of pathogenic fungi, 571; dermatophytes, 659; diagnosing *Candida* 1598, 2400; *C. albicans*, 6, 1599, 1611, 1613, 1625, 2109; *Coccidioides immitis*, 1810, 2423; *Histoplasma capsulatum*, 771, 1536; *Malassezia furfur*, 1090; moniliasis, 1590; *Paracoccidioides brasiliensis*, 2057; pulmonary mycoses, 3; *Sporotrichum schencki*, 183; differentiating between *Microsporum audouini* and *M. canis*, 379; *Trichophyton mentagrophytes* and *T. rubrum*, 567, 2270; examining bile for *Candida*, 111; dermatophytes, 1150; *Histoplasma capsulatum*, 2093; freezing fungi, 2269; identifying *Blastomyces dermatitidis*, 2233; *Candida albicans*, 114, 567, 1045, 2109, 2367, 2368; *C.* sp., 2368–9; *Coccidioides immitis*, 2233; *Cryptococcus neoformans*, 2233; dermatophytes, 2235, 2275; fungi by agar-gel precipitation, 2236; *Histoplasma capsulatum*, 2233; mycoses, 2246; *Sporotrichum schencki*, 2233; immunizing the mouse against *Histoplasma capsulatum*, 332; inducing mutation in *Trichophyton mentagrophytes*, 2284; incorporating antibiotics in an agar medium, 2237; inoculating the dog with *Histoplasma capsulatum*, 547; the rat with *Cryptococcus neoformans* and *Sporotrichum schencki*, 196; investigating air spora, 472–474; isolating antigens from yeast phase cultures of *Histoplasma capsulatum*, 1268; *Candida*, 1301; *Coccidioides immitis*, 2070; dermatophytes from shower room floors, 2197; from clinical materials, 2276; fungi from blood, 448; teeth, 940; soil, 2283; *Histoplasma capsulatum* from soil, 545; keratinophilic fungi, 2283; *Trichophyton discoides*, 910; measuring spore size of *Histoplasma capsulatum*, 77; microscopic count of micro-organisms on membrane filters, 2234; mycelial-yeast conversion of dimorphic fungi, 769; preparing trichophytin, 386; dried cultures of dermatophytes, 843; homogeneous suspensions of dermatophytes, 1088; stained mounts, 536, 1727; preserving fungi, 644; producing antigens of *Candida albicans*, 568; *Coccidioides immitis* spherules in culture, 1525; purifying capsular polysaccharide of *Cryptococcus neoformans*, 749; quantitative determination of *Candida* sp., 569–70; sectioning *C. albicans*, 1305; staining fungi, 445, 591, 597, 644, 847–8, 919–20, 1410, 1959, 2058, 2060, 2233, 2358, 2360, 2444; testing fungicides, 407, 933, 1238; disinfectants, 2274; pathogenicity of *Candida albicans*, 1328; sensitivity of *Blastomyces dermatitidis* to diamidine derivatives, 1489.
Tego 1038, use of, against *Trichophyton interdigitale*, 2274.
Tehyphon, use of, against *Actinomyces israeli*, 1177.
Terramycin, 52; in relation to *Actinomyces israeli*, 220; anorectal complications, 1339; *Blastomyces dermatitidis*, 52; *Candida albicans*, 98, 558, 566, 810, 1064, 1336, 1880, 1882; *C. krusei*, 355; *C. pseudotropicalis*, 806; *C. tropicalis*, 1335; fungicides, 886; moniliasis, 806, 808; *Saccharomyces cerevisiae*, 355; *Torulopsis rubra*, 824; use of, against actinomycosis, 214; *Actinomyces bovis*, 469; *A. israeli*, 11, 215, 469, 673, 2011; *A. naeslundi*, 469; *Allescheria boydii*, 336; *Candida albicans*, 151; *Cryptococcus neoformans*, 499; *Histoplasma capsulatum*, 80; *Madurella mycetomi*, 2349; *Nocardia asteroides*, 468, 1165; *N. brasiliensis*, 468; *N. somaliensis*, 2349; *Sporotrichum schencki*, 151; *Trichophyton interdigitale* and *T. mentagrophytes*, 151.
Terreic acid, production of, from *Aspergillus terreus* and toxicity of to pathogenic fungi, 694.
Testosterone, use of, against aspergillosis, 932; *Histoplasma capsulatum*, 1267.
Tetany, latent, in relation to onychomycosis, 2310.
Tetrao tetrix, *Trichophyton gallinae* on, in Finland, 130.
Tetra-chlorethylene, use of, against onychomycosis, 1362.
Tetracycline, in relation to *Candida albicans*, 1882.
Tetrahydro-9-fluorenone, use of, against *Candida albicans* and dermatophytes, 1905.
Tetrahydroxystilbene, production of, from *Toxylon pomiferum*, 2228.
2′3′4,5′-tetrahydroxystilbene, use of, against fungi, 2228.
Tetrazolium compounds, antifungal properties of, 2001.
Thallium, use of, against microsporosis, 1103, 1374, 1926; tinea, 1658, 2210–2212.
Thenylene, thephorin, and theophylline, use of, against dermatophytes, 410.
T.H.F., use of, against *Actinomyces israeli*, 1177; pathogenic fungi, 1731.
Thielavia sepodonium in relation to *Histoplasma*, 2552.
2, 2′-thiobis (4, 6′-dichlorophenol), see actamer.
Thioformol. use of, against dermatophytosis, 587.

Thiolutin, production of, from *Streptomyces albus*, 422; use of, against *Cryptococcus neoformans*, 269; dermatophytes, 422.
Thiosemicarbacide, use of, against *Candida albicans*, 1584, 1714.
Thiosemicarbazone of enatnaldehyde, use of, against *Candida albicans*, 1584, 1714.
—, use of, against *Cryptococcus neoformans*, 271.
Thorazine, use of, against *Coccidioides immitis*, 1004.
Thorium X, use of, against *Microsporum audouini*, 852.
'Thresher's lung' of man, see Farmer's lung.
Thymol, use of, against dermatophytes, 607.
Tibione, see Thiosemicarbazones.
Tinea of man, 205; in France, 1402; French Morocco, 2273; Great Britain, 1094, 1940, 2168–9, 2198, 2206; India, 1095; Java, 844; Morocco, 388, 1656, 1697, 2210–11, 2483; Portugal, 1663–4; Sardinia, 1096; Switzerland, 397; U.S.A., 421, 591, 2292; U.S.S.R., 900; advocating cautious treatment of, 1642; animals in relation to, 2168–73; campaign against, 1096, 1668, 1697; diagnosis of, 6, 366, 2198; factors affecting, 844; occupational nature of, 1940; 16th-century legislation against, 2482.
— barbae of man in Great Britain, 1940; Northern Ireland, 854; Philippines, 392.
— capitis of man, 439; in Belgium, 867; France, 860; Jugoslavia, 2496; Northern Ireland, 853, 854; Republic of Ireland, 1670, 2315; Philippines, 392, 2313; Portugal, 2207–8; U.S.A., 412, 622, 858, 860, 868, 877, 1414–15, 1671, 1980, 2312; convulsions in relation to, 1414–15; mobile brigade against, 2208; recent literature on, 2212; reportable disease (suggested), 1671; treatment of, 2490; use of asterol dihydrochloride, 877; carbo-fung, 868; collodion, 868; fuchsin, 868; iodine, 2212; phenol, 868; resorcinol, 868; salicylanilide, 1662, 1671; sulphur, 2212; thallium, 2212; undecylenic acid, 1671; X-rays, 867, 1671, 2212; and zinc undecylenate, 1671, against.
— circinata see Tinea corporis.
— corporis of man in Hong Kong, 606; Malaya, 606; Northern Ireland, 854; Philippines, 392, 2167; Singapore (British Army), 588; U.S.A., 1980; tinea pedis in relation to, 588; use of caprylic, propionic, and undecylenic acids against, 1980.
— cruris of man in Northern Ireland, 854; Philippines, 392, 2167; U.S.A., 613.
— flava of man in the Philippines, 2167.
— pedis of man in Czechoslovakia, 2305; England, 2300; Germany, 2494; Israel, 2309; Northern Ireland, 854; Philippines, 392, 2167; Republic of Ireland, 1682; Singapore (British Army), 588; U.S.A., 411, 613, 1973, 1980, 2204; epidemiology of, 2204; erysipelas in relation to, 2309; factors involved in, 1938; tinea corporis in relation to, 588; use of benzoic acid, 1938; caprylic acid, 1980; formic acid, 2305; penotrane, 2300; propionic acid, 1980; salicylic acid, 1938; sodium propionate, 411; sopronal+M11, 1973; undecylenic acid, 1980; and Whitfield's ointment, 1938, against.
— unguium of man, 1921, 2493*d*; in Cuba, 2493*b*, *c*; Germany, 164, 884; Northern Ireland, 854; Philippines, 392, 2167; Spain, 2493*a*; U.S.A., 390, 449, 1362, 1980; associated with *Candida parapsilosis* and *Hyalopus* (?) *keratoplasticum*, 449; causing arthritis in Germany, 2161; use of, asterol, 390; copper undecylenate, 1362; dioctyl sodium sulphosuccinate, 1362; glucose, 390; isopropanol, 1362; lithium bromide, 390; tetra-chlorethylene, 1362; undecylenic acid, 1362; salicyclic acid, 1921.
[Tinea] versicolor on man, see *Malassezia furfur*.
Tinevet, see hexadecamethylene-1:16-bis (isoquinolinium chloride).
Titanium dioxide, use of, against *Candida albicans*, 1903.
Tooth pulpless, infection of man, antibiotics in relation to, in U.S.A., 202.
Torula, use of, moldin against, 206.
— *bergeri* on man, *Phialophora jeanselmei* synonym of, 573.
Torulopsis, feeding tests in mice with, 2384.
— on man in Austria, 448.
— *candida* on man in Germany, 1895, 2384.
— *famata* on man in Germany, 1895.
— *glabrata* on man in Norway, 1295.
— *inconspicua* on man in Austria, 756; Germany, 1895; Norway, 1295.
— *minor*, use of, 2, 2′-dioxy-dichlorodiphenylsulphide against, 897.
— *osloensis* on man in Norway, 278.
— *pintolopesii* on the mouse in Portugal, 284.
— *pulcherrima* not considered an asporogenous yeast, 493.
— *rubra* on man in Austria, 824.
— *sphaerica* on man in Norway, 1295.
— *utilis*, symbiosis of, with bacteria, 101.
— — on man, use of, phaeofacin against 206.
Torulosis of man, see *Cryptococcus neoformans* on man.
Toxylon pomiferum, production of, from tetrahydroxystilbene, 2228.
2:4:5-trichlorophenoxyacetic acid, use of, impurity from, against micro-organisms, 142.
Trichomycin, production of, from *Streptomyces hachijoensis*, 1436.
—, use of, against *Candida albicans*, 827, 1067, 1436, 2130; moniliasis, 827; *Trichophyton mentagrophytes*, 1436.
Trichophytids in man, 128; in Germany, 1087.
Trichophytin, 1405, 1953; cross-reaction of, with *Cryptococcus neoformans*, 1218; producing mycosis, 1087; production of, from *T. mentagrophytes*, 386; response to, in experimental animals suppressed by ACTH, 616; technique for preparing, 386; use of, in diagnosis, 1404.
Trichophyton the genus, 139, 140.
— on man in Hungary, 1409; use of antergen and benadryl, 153; clove oil, 152; moldin, 206; phaeofacin, 206; and 2:4:5-trichlorophenoxylacetic acid, 142, against.
— *acuminatum* synonym of *T. tonsurans*, 899.
— *album* see *T. verrucosum* var. *album*.
— *cerebriforme* synonym of *T. tonsurans*, 899.
— *concentricum* on man in Malaya, 136, 137; Mexico, 869; S. Africa, 1154; Spain, 1413; actidione in relation to, 870; affecting the skin, 136, 137, 869; age in relation to, 1378; penicillin and streptomycin in relation to, 870; use of acetone, 136; copper nitrate, 136; fluvomycin, 921; methylated spirit, 136; salicylic acid, 136, 869; and Whitfield's ointment, 136, against.
— *crateriforme* synonym of *T. tonsurans*, 899.
— *discoides* renamed *T. verrucosum* var. *discoides*, 845.
— —, see also *Trichophyton verrucosum*.
— *equinum* on the horse, 1954; in U.S.A., 635, 2328.

[*Trichophyton equinum*] on man in Great Britain, 2206; U.S.A., 1954.
— *farinulentum* on man in Italy, 1113.
— *faviforme* a nomen nudum, 845.
— —, see also *T. verrucosum*.
— *ferrugineum*, effect of *Bacillus chitinovorus* chitinase on, 1408.
— — on man, 900; in Belgian Congo, 139, 1922–3; India, 1095; U.S.A., 893.
— *flavum*, use of cod-liver oil, 1730; and garlic juice, 143, against.
— — a variant of *T. tonsurans*, 623.
— — on man in Great Britain, 1094; Hungary, 641; Portugal, 1661; Spain, 1658; U.S.A., 605.
— *fumatum* on man in Sardinia, 406.
— *gallinae*, 901, 1954; studies on, 171, 2180.
— — on fowl in Brazil, 1729; England, 2338; (?) Gold Coast, 1988; Puerto Rico, 2218; Uruguay, 247; experimental infection of, 1089; histological studies on experimental infection of, 1959; spread of, to man, 2218.
— — on man in Puerto Rico, 2218; Spain, 1413; U.S.A., 1954.
— — on *Tetrao tetrix* in Finland, 130.
— — on the turkey in U.S.A., 455.
— *glabrum* synonym of *T. violaceum*, 2177.
— — on man in Belgian Congo, 139; Hungary, 664; Morocco, 388; N. Africa, 1661; Portugal, 1661–2, 2207.
— *granulosum*, antagonism of some fungi to, 894; antibiotic products in cultures of, 625; effect of 2·4-D, 629; lumin, 631; platonin, 628; and vitamin K_3, 630, on.
— — on the chinchilla in Canada, 1110.
— — on the horse in U.S.A., 635.
— — on man in Portugal, 1661, 2207; affecting scalp, 2207; culture of, 617.
— — on man, use of, 2, 2′-dioxy-5, 5′-dichlorodiphenylsulphide, 144; garlic juice, 143; *Uncaria gambir* solution, 626; vitamins K and PP, 617, against.
— — on sheep in France, 2174, 2336.
— *interdigitale* a variant of *T. mentagrophytes*, 1115; antagonism of some fungi to, 894; antibiotic from, 2188; culture of, 645; in soil, 401; effect of *Bacillus chitinovorus* chitinase on, 1408; vitamin B complex (B1 and B12) with organ extracts on, 890; of *Chelidonium majus* sap on, 1680–1; growth of, not affected by vitamins, 1998; pathogenicity of, cultured in soil, 148; phenol resistance of, 1686; use of aluminium potassium sulphate, 2308; boric acid, 2308; brilliant green, 1419; commercial disinfectants, 2274; cupricin in, 888; flavacid, 637; mercury salts, 1965; multifungin, 1972; ovitrol, 2326; sodium thiosulphate, 2308; trichothecin, 1433; and undecylenic acid, 1431, against; variety of *T. mentagrophytes*, 2294.
— — on the guinea-pig, culture of, 402; factors affecting, 1952.
— — on man, 2302; in Austria, 416, 418, 1691; Belgian Congo, 2298; Belgium, 138, 2201; Cuba, 2493c; Finland, 130, 892; Germany, 135, 399, 640, 884–5; 888, 1111–12, 1371, 1420, 1423, 1972, 2223, 2291, 2310, 2326; Great Britain, 362, 1653, 2297; Holland, 1123, 1422; Hong Kong, 606; Java, 140; Malaya, 606; Northern Ireland, 854; Republic of Ireland, 1682; Switzerland, 850, 895, 1967, 2306; U.S.A., 1421, 2308; affecting foot, 138, 399, 416, 850, 888, 892, 895, 1123, 1421–2, 2201, 2223, 2297–8, 2302, 2306, 2308; hands, 888, 1422, 2233; legs, 895; nails, 2223, 2310; skin, 130, 606, 1423, 1691; associated with *Microsporum gypseum*, 399; disinfection of footwear against, 1111; effect of *Pseudomonas aeruginosa* on growth of, 1381; family infection by, 2297; resistance of, to antimycotics, 891; study on, 1967; substances fungicidal against, 1684; tetany in relation to, 2310; use of 'antisporon', 135; asterol, 2306; Bacterium 24, 640; bradex and bradex-vioform, 885; criniton, 607; 2, 2′dioxy-5, 5′-dichlorodiphenyl sulphide, 144; hyphocid, 418; iodine-chlorine-oxyquinoline, 416; mycetin, 210; oil of rosemary, 607; ovitrol, 1371; pp′-dichlorodiphenyldisulphide, 1371; pp′bis-oxy-diphenyldisulphide, 1371; penicillin, 145, 151; phebrocon-serol, 2223; plant extracts, 889; rotaventin-resembling antibiotic, 203; salicyl, 418; salicylic acid, 607; terramycin, 151; thymol, 607; undecylenic acid, 850; and vioform cream, 416, against.
[*Trichophyton*] *lacticolor* on man in Sardinia, 406.
— *megnini*, antibiotic from, 2188; studies on, 171, 2180; use of tetrahydro-9-fluroenone against, 1905.
— — on man in Germany, 2200; Israel, 1416; (?) Philippines, 2313; Spain, 1413; affecting nails, 1416; scalp, 1416, 2313; use of asterol, Dreuw's ointment and X-rays against, 1416; Wood's light for detecting, 2313.
— *mentagrophytes*, 844; action of actamer on, 871; antagonism of *Chaetomium globosum* to, 923; antibiotic from, 2158; antityrosinase activity in, 2287; *Bacillus chitinovus* chitinase and, 1408; biochemical study on, 2181; biological study on, 2180; culture on chick embryos, 1676; differentiation between *T. rubrum* and, 2270; effect of 2, 4-D on, 629; *Chelidonium majus* sap on, 1680; isonicotinic acid hydrazide, 622; lumin on, 631; pityrol on, 627; plantonin on, 628; and *Rhus javanica* gall on, 626; on tyrosine-tyrosinase reaction, 1379; sarcoidosis, 556; enzymes of, 372; fluorescence of, in culture, 1114; immunological study on, 1950; induced mutations in, 2284; penicillin production by, 2187; pigment production by, 2187; production of trichophytin from, 386; serology of, 1397–8; trace metal deficiency in, 1688; *T. interdigitale* considered as a variant of, 1115; *T. interdigitale* and *T. rubrum* vars. of, 2294; use of, as a test fungus, 154, 1687; antihistamines, 2477; amino steroids, 451; bacillomycin R, 1108; badional, 1714; Bayer DY, 935, 987; chloro-2-naphthoquinone 924 cialit, 1340; cod-liver oil, 1730; 2, 6-diiodphenol, 1340; endomycin, 1891; fissan-antimykoticum, 872; flavacid, 637; fluvomycin, 921; gentian violet, 1419; 8-hydroxyquinoline, 641, 934; malachite green, 1340; merkuril, 1340; methyl parahydroxybenzoate, 826; monothiouronium derivatives, 2225; N(1)-ethylmercury albucid, 1340; N-methyl-mercury-aristamid, 1340; β-naphthylthioglycolic acid, 934; neomycin, 207; 3-4- & 5-phenylsalicylamide derivatives, 2226; salicylamide, 2227; spergon, 157; synkayvite, 2106; 2′3′4,5′-tetrahydrostilbene, 2228; T.H.F., 1731; 2:3:5-trichlorophenoxyacetic acid impurity, 142; trichomycin, 1436; trichothecin, 1433; 2.4.6-triiodphenol, 1341; and undecylenic acid, 1431, against; as a test fungus, 154.
— — in soil in caves in S. Africa, 1945, 2272.
— — on animals, studies on epidermal sensitization by dinitrochlorobenzene in relation to, 387; isolation of, from viscera, 1432.

[*Trichophyton mentagrophytes*] on the cat in Cuba, 1106; U.S.A., 2292, 2334.
— — on cattle in Great Britain, 1417–18, 2169, 2335.
— — on the chinchilla in U.S.A., 1947, 2292, 2328.
— — on the dog in Great Britain, 1721; U.S.A., 2292, 2328, 2332, 2334.
— — on the fowl, experimental infection of cock's comb, 1089.
— — on the guinea-pig in Argentina, 2498; Cuba, 2340; U.S.A., 1946, 2292, 2328; epidemic of, 1946; separation of epidermis from dermis by filtrates of, 1949; use of coal tar and hexylresorcin against, 2278.
— — on the hare in U.S.A., 1948.
— — on the horse in Chile, 1974.
— — on the kangaroo in U.S.A., 2328.
— — on man in Argentina, 608; Australia, 652; Belgium, 1118; Brazil, 609; Canada, 13, 1375, 2325; Czechoslovakia, 2205; Finland, 130; Germany, 135, 640, 872, 1371, 2200, 2326; Great Britain, 1094, 1417, 1653, 1654, 1669, 1940, 2169, 2206, 2301, 2322; Holland, 1951; Hong Kong, 606; Hungary, 641; India, 1095; Israel, 1405; Italy, 1113; Japan, 887; Java, 140; Malaya, 606; New South Wales, 1935; Northern Ireland, 854; Norway, 2194; Philippines, 392, 2167; Sardinia, 1400; S. Africa, 1154; Spain, 384, 1413, 1659, 1927; Sweden, 1290; Switzerland, 2306; Turkey, 1924; U.S.A., 409, 639, 651, 661, 859, 876, 1092, 1394, 1934, 1953, 1966, 2204, 2290, 2292–3, 2299, 2307, 2324, 2339; Venezuela, 1989; affecting the eyelashes, 1400; feet, 392, 859, 1669, 1966, 2167, 2204 2299, 2301, 2306, 2307; legs, 609, 2194; nails, 859, 2194, 2200, 2324; scalp, 854, 1394, 1405, 1934–5, 2206; skin, 130, 606, 661, 859, 2200, 2325; toe-nails, 409; amino acid content of, 1653; antibiotics in relation to, 826; culture of, 129, 409, 567, 608, 2299; dermatophytids caused by, 134; development of resistance to asterol and undecylenic acid by, 1677; diagnosis of, 364; effect of *Pseudomonas aeruginosa* on, 1381; epidemiology of, 2307; experimental infection of, 1683, 2307; fluorescence in, 608; infection of, from animals, 1113, 1654, 2292, 2339; cattle, 1417, 2169; in relation to mosaic fungus, 133; mutation complicating identification of, 1118; new variety of, 384; nutritional studies on, 873, 1689; occupation in relation to, 1940; reinfection of, from socks, 1669; serology of, 1913; survival of, on feet, 1667; streptomycin in relation to, 100; trichophytin in relation to, 1290, 1953; use of alkyl (cetyl)-dimethyl-benzyl ammonium chloride, 368; 'antisporon', 135; asterol, 876, 1092, 2306; Bacterium 24, 640; benzathiazole derivatives, 887; bromoacetic acid, 423; chlorquinaldol, 1966; dichlorodioxyphenylmethane, 872; dimethyl 1, 10 phenantheoline, 200; 2,2′-dioxy-5,5′-dichlorodiphenylsulphide, 144, 897; dimethylbenzyl-hexadecylamine hydrochloride, 423; ethyl bromoacetate, 368; ethylene glycol monobromoacetate, 368; Geigy 20704 & 21772, 200; gentian violet, 1953; hydroxystilbamidine, 704; iodine, 1405; isopiropyl alcohol, 1092; lergigan and lisergan, 200; merfan, 1668; N-n-butyl-3-phenylsalicylamide, 2324; ovitrol, 1371, 2326; P-594, 639; penicillin, 145; phaeofacin, 206; phenanthroline and phenergen, 200; potassium permanganate, 1417, 1953; pp′bis oxy-diphenyldisulphide, 1371; pp′dichloro-diphenyldisulphide, 1371; precipitated sulphur, 609; propylparaben, 826; rotaventin-resembling antibiotic, 203; salicylic acid, 609; sulpho-salicylic acid, 1400; terramycin, 151; tyrothricin, 100; Whitfield's ointment, 1417; and X-rays, 1405, against.
[*Trichophyton mentagrophytes*] on the mouse in U.S.A., 2292, 2328.
— — on the opossum in U.S.A., 2328.
— — on the pig in Scotland, 2337.
— — on public bath floors in Scotland, 2197.
— — on the rabbit in Spain, 384; effect of previous infection by *T. rubrum* on, 616.
— — on the rat in U.S.A., 2292, 2328; experimental systemic infection by, 1117.
— — on shoes and shower stalls in U.S.A., 874.
— — var. *granular* on man in U.S.A., 1954.
— *ochraceum* on man in Java, 140.
— — renamed *T. verrucosum* var. *ochraceum*, 845.
— *pedis*, effect of *Uncaria gambir* solution, 626; *Rhus javanica*, 626; platonin, 628; 2,4-D, 629; vitamin K_3, 630; and lumin, 631, on.
— *persicolor*, culture of, 403, 404.
— — on man in Belgium, 147; Sardinia, 406; Switzerland, 2306.
— *plicatile*, antibiotic products in cultures of, 625; use of plant extracts against, 889.
— *pruinosum* on sheep in France, 2174.
— *quinckeanum*, biological study on, 2180; experimental infection of cock's comb by, 1089.
— — on the dog in Germany, 1418.
— — on the guinea-pig, use of cortisone against, 168, 169.
— — on man in Czechoslovakia, 2222; England, 1383; Germany, 1418, 2200; Great Britain, 2206; Spain, 132, 1413; infection of, from a dog, 1418; from straw, 2222.
— — on the mouse in Germany, 1418.
— *regulare* on man in Hungary, 664.
— *rodhaini* on man in Belgian Congo, 139.
— *rosaceum*, carnosine (B-alanyl-histide), histidine and histidyl-histidine in relation to growth of, 610.
— — on man in France, 1406; Spain, 1658.
— *roseum* on man in Portugal, 2207; Sardinia, 406.
— *rubrum*, amino acid content of, 589; biological study on, 2180; antagonism of antibiotics to, 1370; culture of, 401, 409, 567, 645; differentiation between *T. mentagrophytes* and, 2270; effect of 2,4-D on, 629; animal and plant peptones on pigment development of, 371; of hydroxystilbamidine, 1120; lumin, 631; pityrol, 627; platonin, 628; *Rhus javanica* gall. 626; and vitamin K_3, 630, on; enzymes of, 372; *Escherichia coli* inhibiting, 446; infestation of cultures of, by mites, 665, 863; pathogenicity of, cultured in soil, 148; pleomorphism in, 2485; study on, 1967; technique for freezing, 2269; toxicity of filipin to, 1430; trace-metal requirements of, 1688; use of amino steroids, 451; bacillomycin A & R, 1108; badional, 1714; cod-liver oil, 1730; dichloroxyquinaldine, 2224; endomycin, 1891; flavacid, 637; fluvomycin, 921; propamidine, 454; spergon, 157; tetrahydro-9-fluorenone, 1905; T.H.F., 1731; trichothecin, 1433; and undecylenic acid, 1431, against; var. of *T. mentagrophytes*, 2294.
— — on cattle in India, 1694.
— — on the dog in India, 1694.
— — on man in Australia, 652; Austria, 416, 2295; Belgian Congo, 139, 2195; Belgium,

138, 2201; Brazil, 609; Canada, 131, 1962, 2325; Cuba, 2493*c*; France, 148; Germany, 135, 164, 640, 884, 1112, 1119, 1420, 2200, 2291, 2294, 2310, 2326; Great Britain, 362, 1094, 1154, 1652–3, 1695, 2203, 2296–7, 2301; Holland, 393, 1123, 1422, 1951; Hong Kong, 606; India, 881; Japan, 612; Java, 140; Malaya, 136–7, 606; New South Wales, 1935; Nigeria, 394; Northern Ireland, 854; Philippines, 392, 2167; Portugal, 1661–2, 2207; S. Africa, 1154; Spain, 1413; Switzerland, 850, 1967, 2306; Turkey, 1924; U.S.A., 161–2, 165, 389, 390–1, 405, 409, 582, 611, 613, 615, 634, 639, 661, 859, 876, 879 880, 882, 893, 902, 1092 (army), 1122, 1623, 1693, 1966, 2204, 2290, 2292–3, 2299, 2307, 2311, 2320–1, 2324; U.S.S.R., 2288; Venezuela, 1989; affecting arm, 161; beard, 613, 1962, 2321; body, 161; buttocks, 2320; crural region, 859; feet, 138, 162, 390, 393, 416, 611–12, 615, 661, 850, 859, 880, 902, 1123, 1422, 1966, 2201, 2204, 2297, 2299, 2301–2, 2306–7; fingers, 165, 1967; hair, 368, 1652; hand, 162, 390, 393, 611, 615, 859, 879, 880, 1422, 1695; legs, 609, 1122–3, 1695; nails, 161–2, 390, 402, 409, 859, 884, 1623, 1695, 2200, 2296, 2311, 2324; neck, 165; scalp, 161, 1100, 1662, 1935, 2207, 2320; tibia, 393; antibiotics in relation to, 826; associated with lymphoblastoma, 389; *Streptomyces albus*, 1119; culture of, 136, 393, 402, 409, 2294, 2299; diagnosis of, 364, 1123; differentiation of, from mycosis, neuro-dermatitis, and psoriasis, 389; epidemiology of, 2307; evaluation of fungicides against, 614; experimental infection by 1683; family infection by, 2296, 2297; nutritional requirements of, 1689; physiology of, 2289; serology of, 1913; simulating creeping eruption, 2320; dermatitis herpetiformis, 405; study on, 1693; study on parasitic growth-phase of, 1962; survival of, on feet, 1667; tetany in relation to, 2310; use of acetone, 136; 'antisporon', 135; asterol, 639, 876, 1092, 2295, 2306, 2311; asterol dihydrochloride, 162, 2311; bacitracin, 161; Bacterium 13 & 16, 640; caprylic acid, 615; Castellani's paint, 2295; chlorquinaldol, 1966; copper nitrate, 136; desenex, 161; dextrose, 2311; 1:2:3:4-diepoxybutane, 1652; diparalene, 1100; iodides, 1122; iodine, 2295; iodine-chlorine-oxyquinoline, 416; isopiropyl alcohol, 1092; lithium bromide, 2311; mercuric acetate, 1652; methylated spirit, 136; methylparaben, 826; mycelin, 210; nicetin, 2325; ninhydrin, 2203; N-n-butyl-3-phenylsalicylamide, 2324; ovitrol, 2326; P-594, 639; penicillin, 151; precipitated sulphur, 609; propionic acid, 615; propylparaben, 826; salicylic acid, 136, 609, 615, 2320; silver nitrate, 2295; staphylococcus culture filtrates, 1693; *Streptomyces* (?) *antibioticus* antibiotic, 204; sulphosuccinic acid, 615; sulphur, 2320; undecylenic acid, 615, 850; urea, 2203; vioform cream, 416; Whitfield's ointment, 136, 2295; and X-rays, 161, 1122, against.

[*Trichophyton rubrum*] on the mouse, study on, 163.

— — on public bath floors in Scotland, 2197.

— — on the rabbit, effect of previous infection of, on *T.* mentagrophytes, 616.

— — on the rat, experimental systemic infection by, 1117.

— — on shoes and shower stalls in U.S.A., 874.

— *sabouraudi*, technique for freezing, 2269; use of endomycin against, 1891; variant of *T. tonsurans*, 623.

[*Trichophyton sabouraudi*] on man in Great Britain, 1094; Morocco, 388; Portugal, 1662, 2207; Spain, 907, 1658–9, 1927; Turkey, 905; affecting the scalp, 905, 907, 1662, 2207; combined infection of *T. violaceum* and, 907; use of criniton, 607; oil of rosemary, 607; salicylic acid, 607; and thymol, 607, against.

— *schoenleini*, antibiotic effect of *Oospora virescens* on, 825; antagonism of antifungal antibiotics to, 1370; antityrosinase activity of strains of, 2287; biochemistry of, 1093; effect of, on tyrosine-tyrosinase reaction, 1379; pH in relation to action of 2-4.D and 2-4-5 T. on, 638; technique for freezing, 2269; use of chlorquinaldol, 1966; dichloroxyquinaldine, 2224; endomycin, 1891; fluvomycin, 921; undecylenic acid, 1431; and X-rays, 1696, against.

— — on man in Algeria, 395; France, 860, 1402; Germany, 135, 640, 642, 1371, 1698, 2166; Great Britain, 1094, 1124, 1696; 1940; Greenland, 396; Hungary, 641, 664; Iraq, 166; Israel, 1405; Italy, 1970; Java, 140; Morocco, 388, 1403, 1697; Northern Ireland, 854; Portugal, 1661, 1663–4, 2207; Sardinia, 406; South Africa, 1154, 2318; Spain, 624, 1413, 1658–9, 1927; Tunisia, 2209; Turkey, 905; U.S.A., 382, 618, 620, 2290; Yugoslavia, 167; affecting the feet, 1970; hair, 624; scalp, 642, 854, 860, 905, 1100, 1124, 1402–3, 1405, 1696, 2207; skin, 406, 618, 624, 1698; campaign against, 1697; culture of, 617; effect of *Pseudomonas aeruginosa* on growth of, 1381; forms of, 1698; occupational nature of, 1940; physiology of, 2289; use of Bacterium 24, 640; bromoacetic acid, 423; 2,4-D, 141; dimethylbenzylhexadecylamine hydrochloride, 423; diparalene, 1100; ethyl bromoacetate, 368; ethyl glycol monobromoacetate, 368; 8-hydroxy quinoline, 641; β-indolepropionic acid, 141; iodine, 1405; novex, 1698; ovitrol, 1371, 1698; penicillin, 145; pp'bis-oxy-diphenyldisulphide, 1371; pp'-dichloro-diphenyldisulphide, 1371; vitamins, 617; and X-rays, 620, 624, 1403, 1405, 1698, against; 'witkop' caused by, 2318.

— *soudanense*, antityrosinase activity of, 2287; culture of, in soil, 401, 402; effect of, on tyrosine-tyrosinase reaction, 1379; mutation in, 403.

— — on man in Belgian Congo, 139; France, 860; Nigeria, 394; affecting the hair, 402; scalp, 860; culture of, 402.

— *sulphureum*, antagonism of antifungal antibiotics to, 1370; use of trichothecin against, 1433.

— — on man in Australia, 652; England, 1383; Great Britain, 1094, 1653, 1699, 2206; New Zealand, 883; New South Wales, 1935; Northern Ireland, 853–4; U.S.A., 155, 422, 621, 902, 2290; synonym of *T. tonsurans*, 899; variant of *T. tonsurans*, 623; affecting feet, 902; scalp, 155, 422, 853–4, 883, 1383, 1699, 1935, 2206.

— *tonsurans*, antagonism of *Chaetomium globosum* to, 923; antibiotic effect of *Oospora virescens* on, 825; biological study on, 2180; effect of *Chelidonum majus* sap on, 1681; hyphal fusion between variants of, 1700; nutritional studies on, 1961; pH in relation to action of 2-3D, 2-4D, 2-5D, & 2-4-5T and chlorophenoxyacetic acid on, 638; use of chlorquinaldol, 1966; endomycin, 1891; fluvomycin, 921; β-indole propionic acid, 141; 2,4-D, 141; and nidulin, 636 against.

— — on man in Australia, 652; Canada, 1377;

Ecuador, 1675; Germany, 1126, 2161; Great Britain, 1094, 1669; Holland, 1951; India, 1095; Israel, 1405; Java, 140; Mexico, 1375; New South Wales, 1935; (?) Philippines, 2313; Portugal, 1661, 1662, 2207; Republic of Ireland, 1670, 2315; Sardinia, 406, 2217; Spain, 1413, 1659, 2317; Tunisia, 2209; U.S.A., 155, 170, 409, 419, 595, 619, 622–3, 899, 1125, 1127, 1375, 1385, 1394, 1425, 1701, 2178–9, 2216, 2292–3, 2312, 2316, 2324; affecting the nails, 170, 409, 899, 2161, 2179, 2217; scalp, 155, 619, 899, 1125, 1127, 1375, 1385, 1394, 1405, 1425, 1662, 1675, 1701, 1935, 2161, 2207, 2312, 2313; skin, 170, 406, 899, 1126, 1425, 1675, 2179, 2315–2317; effect of *Pseudomonas aeruginosa* on, 1381; nutritional requirements of, 1689; morphological study on, 2179; spread of, from animals, 1670; synonymy of, 623, 899; taxonomy of, 2178; use of ammoniated mercury, 899; asterol, 899; asterol dihydrochloride, 419; bromoacetic acid, 423; colloidal mercury bioleate, 1701; decupryl, 899; desenex, 899; dimethylbenzylhexadecylamine hydrochloride, 423; ethyl bromoacetate, 368; ethylene glycol monobromaocetate, 368; fissan preparations, 1126; p-(betadiethylaminoethoxy) phenyl-phenethyl ketone, 595; podophyllum resin, 155; sulfisoxazole, 1701; Whitfield's ointment, 899; and X-rays, 155, 622, 899, 1405, against; Wood's light for detecting, 2271, 2313.

[*Trichophyton*] *verrucosum*, 844; biological study on, 2180; culture of, 2183; synonymy of, 409, 845.

— — on cattle in Canada, 1957; Germany, 2183; Great Britain, 1721, 2330; U.S.A., 409, 911, 1411, 2328; culture of, 409; infecting man, 911, 1129, 1411, 1957, 2292.

— — on the dog in Great Britain, 2335.

— — on the donkey in U.S.A., 2328.

— — on the horse in Great Britain, 1721.

— — on man in Canada, 131, 1377, 1957; France, 1690; Germany, 2200; Great Britain, 1940; Hungary, 896, 1412; Norway, (?) 1955; Spain, 1658; Switzerland, 397; U.S.A., 651, 911, 1129, 1411, 1954, 2292–3; affecting face, 397; scalp, 397, 1412, 1690; skin, 2200; culture of, 397, 1377; infection from bushes and undergrowth, 1955; from cattle, 911, 1129, 1411, 1957, 2292; occupational nature of, 1940; use of annabar-sulphur, 896; iodine, 896; potassium iodide, 1411; and X-rays, 1411, 1690, against.

— — var. *album* on man in Belgian Congo, 139; Spain, 1413.

— — var. *discoides*, amino acid content of, 589; *T. discoides* renamed, 845.

— — — on cattle in Canada, 909, 1109; Czechoslovakia, 2221; Great Britain, 172, 1417, 1956, 2169; Northern Ireland, 1956; culture of, 2221; infecting man, 909, 1109, 1417, 1956, 2169; problems in treatment of, 1958; technique for isolating, 910.

— — — on man in Canada, 1109; Great Britain, 172, 1094, 1383, 1417, 1653–4, 1956, 2169, 2206; Northern Ireland, 853–4, 1956; S. Africa, 1154; affecting the scalp, 853–4, 1383, 2206; infection of, from animals, 1654; cattle, 909, 1109, 1417, 1956, 2169; use of potassium permanganate, 1417; and Whitfield's ointment, 1417, against.

— — — on sheep in France, 2174.

— *violaceum*, amino acid content of, 589; biological study on, 2180; effect of *Baccilus chitinavorus* chitinase on, 1408; pH in relation to action of 2-4D & 2-4-5-T on, 638; proteolytic activity of, 2184; technique for freezing, 2269; *T. glabrum* synonym of, 2177; use of bacillomycin, bacillomycin A & R, 1108; chlorquinaldol, 1966; dichloroxyquinaldine, 2224; and fluvomycin, 921, against; variability of, 2486.

[*Trichophyton violaceum*] on man in Belgian Congo, 139; Finland, 130; France, 860; Germany, 2200; Great Britain, 1094, 1653; Hong Kong, 606; Hungary, 641, 664; India, 1095; Israel, 1405; Malaya, 606; Morocco, 388; New S. Wales, 1935; Philippines, 392; Portugal, 1661, 1662, 2207; Sardinia, 406, 2217; Spain, 2317; S. Africa, 1154; Spain, 624, 907, 1413, 1658, 1659, 1927; Tunisia, 2209; Turkey, 905, 1924; U.S.A., 155, 411, 1934, 2290, 2293; affecting hair, 624; nails, 1924, 2200; scalp, 155, 860, 905, 907, 1405, 1662, 1934–5, 2207, 2217, 2317; skin, 130, 406, 606, 624, 2200; combined infection of *T. sabouraudi* and, 907; use of 2-4-D, 141; 8-hydroxyquinoline, 641; β-indoleacetic acid, 141; β-indolepropionic acid, 141; iodine, 1405; podophyllum resin, 155; sodium propionate, 411; and X-rays, 155, 624, 1405, against.

— — var. *indicum* on man in India, 1095.

Trichophytoneae, taxonomy of, 140.

Trichophytosis of man in France, 851; Germany, 164, 415, 2166, 2193; Spain, 660; Yugoslavia, 167.

Trichosporon asteroides, use of fluvomycin against, 921.

— *beigelii*, use of fluvomycin against, 921.

— — on man in Brazil, 912; Spain, 120; synonym of *T. cutaneum* (q.v.), 912, 1705; use of moldin against, 206.

— *capitatum* in drinking water, 1323.

— — on man in Germany, 1323; Norway, 1295.

— *cutaneum*, use of fluovomycin against, 921; use of a urease test for identifying and screening, 2047; vitamin requirements of, 1704.

— — on cattle, isolation of, from faeces, 2384.

— — on man in Argentine, 119; Brazil, 912; Germany, 1879, 1895; Norway, 1295, 1705; isolation of, from the ear canals, 1705; blood, sputum, and skin, 1295; faeces, 1879; affecting the ear, 1705; lung, 1879; nails, 1895; digestive tract, 1579; name *T. beigelii* preferred for, 912; *T. beigelii* (q.v.) synonym of, 1705; use of iodide and sulphonamide against, 119.

— — var. *peneans* and *T. diddensii* on the shrimp in Gulf of Mexico, 118.

— *infestans*, vitamin requirements of, 1704.

— *lodderi* on the shrimp in Gulf of Mexico, 118.

— *pullulans*, use of a urease test for identifying and screening, 2047.

— — on man in Holland, 1156.

— *rotundatum*, antibiotic action of *Nocardia madurae* on, 679.

Trichosporum on man in Austria, 448.

— *rugosum* on man in Hungary, 664.

Trichothecin, production of from *Trichothecium roseum* and toxicity of, to fungi pathogenic for man, 1433.

Tricothecium roseum in relation to cave disease of man in Algeria, 2033.

— —, production of trichothecin from, 1433.

2,4,6-triiodphenol, use of, against *Candida albicans* and *Trichophyton mentagrophytes*, 1340.

Trimeton, use of, against *Blastomyces dermatitidis*, 2361.

Triosulun Squibb, use of, against *Paracoccidioides brasiliensis*, 1511.
Triple dye, use of, against *Aspergillus flavus*, *A. nidulans*, and *A. niger*, 1757.
Trypaflavine, use of, against *Trichophyton interdigitale*, 1684.
Trypsin, use of, against *Coccidioides immitis*, 1817.
Tumours of man, fungi isolated from, 574.
Turkey, aspergillosis of the, in Great Britain, 1721.
—, *Aspergillus fumigatus* on the, in England, 116; U.S.A., 455, 695.
—, *Candida albicans* on the, in Great Britain, 116, 1721; Poland, 361; U.S.A., 455; aureomycin and terramycin in relation to infection of fecal microflora by, 1347; etiology of, 1074; not primary cause of moniliasis, 117; copper sulphate in relation to, 2145; use of penotrane against, 116.
—, *Oidium pullorum* on the, in U.S.A., 455.
—, *Trichophyton gallinae* on the, in U.S.A., 455.
Typhoid vaccine, use of, against *Sporotrichum schencki*, 185.
Tyrophagus lintneri infesting cultures of dermatophytes, 863.
Tyrosine-tyrosinase reaction, effect of inhibition of, by dermatophytes on, 1379, 1392.
Tyrosolvim, use of, against *Candida albicans*, 1584.
Tyrothricin, use of, against fungi pathogenic for man, 100; mycotic skin infections, 1637.

U-0579, use of, against *Cryptococcus neoformans*, 269.
Ultra-violet light, use of, against *Candida albicans*, 1339; for inducing mutation in *Trichophyton mentagrophytes*, 2284.
Uncaria gambir solution, effect of, on *Trichophyton granulosum* and *T. pedis*, 626.
Undecylenic acid, development of resistance to, in *Microsporum canis* and *Trichophyton mentagrophytes*, 1677; effect of, with antibiotics on *Epidermophyton floccosum*, 886; use of, against *Blastomyces dermatitidis*, 52, 262, 1781; *Candida albicans*, 833, 1431; dermatophytes, 414, 614, 1431, 1687, 1930; onychomycosis, 1362; tinea capitis and corporis, 1671; tinea pedis, 850, 1980.
Undex, use of, against dermatophytes, 850.
Urea, use of, against *Trichophyton rubrum*, 2203.
Urethritis, mycotic, of man in England, 1044.
Urinary apparatus, fungal infections of, 2474.
Ustilago tritici on man, causing asthma in Brazil, 254.
Ustin, proposal of name *nor*-nidulin to replace, 636.

V741, use of, against mycoses, 2202.
Vanithiazone, see Thiosemicarbazones.
Varidase, use of, against *Histoplasma capsulatum*, 1276.
Verticillium cinnabarinum on man in Hungary, 664.
Veterinary mycology in relation to public health, 651.
Vioform, effect of, with antibiotics on *Epidermophton floccosum*, 886; use of, against dermatophytes, 416, 1947.
Vitamin B, effect of, on *Trichophyton interdigitale*, 890; use of, against moniliasis, 562, 890, 1319, 2112; post-antibiotic mycoses, 1985.
— B_2, deficiency in relation to *Candida albicans*, 1579, 1580; use of, against *Paracoccidioides brasiliensis*, 54.
— B_{12}, effect of, on *Candida albicans*, 1998.
— D, use of, against *Candida albicans*, 1311.
[Vitamin] K, use of, against *Trichophyton granulosum* and *T. schoenleini*, 617.
— K_3, use of, against dermatophytes, 630.
— K_5, use of, against pathogenic fungi, 122.
— PP, use of, against *Trichophyton granulosum* and *T. schoenleini*, 617.
Vole, *Haplosporangium parvum* on the, in Canada, 2439.

Water, *Allescheria boydii* in, in U.S.A., 2003.
—, *Aspergillus fumigatus* in, in U.S.A., 2003.
—, *Geotrichum candidum* in, in U.S.A., 2003.
—, *Histoplasma capsulatum* in, in U.S.A., 536, 1275, 2085, 2086.
Wellcome preparations 48–166 & 48–239, use of, against *Coccidioides immitis*, 1004.
Whitfield's ointment, use of, against dermatophytes, 136, 381, 899, 1417, 1938, 2295.
'Witkop' of man, 2318.
Woodchuck, *Histoplasma capsulatum* on the, in U.S.A., 1294.
Wood's light, use of, in detecting air spora, 1767; *Malassezia furfur*, 1709, 2271; microsporosis,
Wood's light, use of, in detecting air spora, 1767; *Malassezia furfur*, 1709, 2271; microsporosis, 851; *Microsporum audouini*, 158, 854, 858, 1125, 1395, 1931; *M. canis*, 604, 854, 1125, 1384, 1931; *M. gypseum*, 1931; tinea, 854, 2271; *Trichophyton flavum*, 605; *T. sulphureum*, 621; *T. tonsurans*, 622, 1125, 2271; trichophytoses, 851.

Xanthocillin, use of, against *Actinomyces israeli*, 2019.
X-rays, 234; effect of, on *Allescheria boydii*, 1360; in relation to *Blastomyces dermatitidis*, 49, 705, 1205; *Candida albicans*, 2381; use of, against *Actinomyces israeli*, 221, 231, 682, 1173, 1176, 1183, 2011; *Blastomyces dermatitidis*, 267, 1209, 1493, 1789; *Candida pelliculosa*, 2190; chromoblastomycosis, 57; *Cryptococcus neoformans*, 1219, 1789; favus, 900; *Histoplasma capsulatum*, 80; microsporosis, 1374, 1926; *Microsporum audouini*, 374, 380, 624, 854, 1103, 1382, 1383, 1933, 1934; mycoses, 867; *Phialophora compacta*, 2351; *Rhodotorula rubra*, 2190; *Sporotrichum schencki*, 1133; tinea, 854, 900, 1658, 2210, 2273; tinea capitis, 867, 1671, 2212; *Trichophyton megnini*, 1416; *T. rubrum*, 161; *T. schoenleini*, 621, 1403, 1696, 1698; *T. tonsurans*, 897; *T. verrucosum*, 1411, 1690; trichophytoses, 1403.

Yatren-casein forte, use of, against *Torulopsis inconspicua*, 756.
Yeasts, 1473; analysis of ploidy in some, 493; culture of, 1366.
— in bees in Italy, 1501.
— — ruminants, 2525.
— on man, 191; in Finland, 1908; Germany, 2200; New Zealand, 1991; Norway, 548, 936; S. America, 440; U.S.A., 339, 2400; affecting lungs, 2; vagina, 2400; antibiotics in relation to, 1330; isolation of, from urine, 358; penicillin in relation to, 358.
—, asporogenous, classification of, 1.
—, pink, of man in U.S.A., 1968.

Zinc, use of, against *Candida albicans*, 1898.
— undecylenate, use of, against *Histoplasma capsulatum* and *Paracoccioides brasiliensis*, 2002; tinea capitis, 1671.
— oxide, use of, against *Sporotrichum schencki*, 178.

Volume II *Part 1*

REVIEW OF MEDICAL AND VETERINARY MYCOLOGY

Edited by

S. P. WILTSHIRE, D.Sc.
DIRECTOR, COMMONWEALTH MYCOLOGICAL INSTITUTE

in collaboration with

CHARLES WILCOCKS, C.M.G., M.D., F.R.C.P., D.T.M. & H.
DIRECTOR, BUREAU OF HYGIENE AND TROPICAL DISEASES

J. T. DUNCAN, F.R.C.S., L.R.C.P.(IRE.), D.T.M. & H.
LATELY DIRECTOR OF MEDICAL MYCOLOGY, LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE

and

W. A. POOL, M.R.C.V.S.
DIRECTOR, COMMONWEALTH BUREAU OF ANIMAL HEALTH

THE COMMONWEALTH MYCOLOGICAL INSTITUTE
KEW, SURREY

Price 5s. or $0.75 net post free

1953

NOTICE

THE literature on medical and veterinary mycology is widely scattered and frequently difficult to consult. Certain aspects of the subject are covered by various abstracting journals, but no journal covers them all. For over twenty years the *Review of Applied Mycology* abstracted papers dealing chiefly with the systematic aspect, and the *Tropical Diseases Bulletin* and the *Bulletin of Hygiene* still review selected papers from the medical point of view, but this journal aims at surveying the field completely. It lists all available papers on medical and veterinary mycology and supplies where necessary references to abstracts in other abstracting journals.

The following issues are available: 1943, 1944, 1945, 1946, 1947, 1948 at 6*s*. 0*d*. each, 1949 to 1952 at 10*s*. each, post free. Formerly known as the *Annotated Bibliography of Medical Mycology*, the name was changed to *Review of Medical and Veterinary Mycology* in 1951. The *Review* is expected to appear in two parts in each year and the price remains the same at 10*s*. per annum, post free. The subscription price is payable in advance.

Authors are requested to assist in the work by sending reprints of their papers as soon as possible after publication to the Director, Commonwealth Mycological Institute, Kew, Surrey, to whom orders and correspondence respecting the *Review* should be addressed.

A cumulative index for Volume I, covering the ten years 1943–52 is in preparation and it is hoped to issue it in 1953.

INDEX OF AUTHORS

Adams (R. D.) 26
Ajello (L.) 84
Akyel (M.) 107
Amberson (J. M.) 43
Arentzen (W. P.) 45
Arnold (Anna C.) 8

Baker (R. D.) 48
Balsacq (J.) 99
Barlas (O.) 107
Barrack (B. B.) 57
Beeson (P. B.) 31
Benham (Rhoda W.) 150
Bentinck-Smith (J.) 89
Berkeley (W.) 62
Bernstein (I. L.) 16
Bertrand 99
Bettinotti (C.) 119
Blaxland (J. D.) 117
Bocobo (F. C.) 29
Boedijn (K. B.) 140
Bohl (E. H.) 22
Bonatti (A.) 69
Bory (R.) 125
Bouillenne (R.) 141, 142
Bouillenne-Walrand (M.) 141, 142
Bradley (Eleanor G.) 96
Briz de Negroni (C.) 69
Brun (R.) 113
Brune (E.) 123
Brygoo (E.-R.) 111, 112
Burke (Ruth C.) 63

Campins (H.) 87
Caputi (F.) 102, 103, 104
Cariker (Mildred) 74
Chabás López (J.) 144
Chamberlain (D. M.) 22
Charlin 25
Chediak (A. B.) 81
Chediak (M.) 81
Chinn (H. J.) 8
Christopherson (W. M.) 82
Ciferri (R.) 1, 42
Cohen (J. R.) 33
Cole (C. R.) 22
Collette (T. S.) 27
Collier (W. A.) 85, 86
Collins (V. P.) 34
Conway (H.) 62
Cook (J. E.) 16
Courtois (G.) 60
Cronk (G. A.) 83
Crotty (R. Q.) 161
Cruikshank (D. B.) 35
Curtis (A. C.) 51

Daglio (C. A. [N.]) 69
Daniels (G.) 159
David (M.) 25
Defrenne (P.) 59
De La Fuente (A. A.) 85
Depieds (R.) 97
De Tiege (R.) 124
Dixon (J. L.) 68
Dodge (P. R.) 26
Doherty (D. D.) 155
Dósa (A.) 145
Dowding (E[leanor] S.) 133
Drouhet (E.) 36, 37, 91
Dunham (W. B.) 52

Ende (N.) 75

Falkinburg (L. W.) 66
Farrell (R. L.) 22
Fava (A.) 19
Ferguson (L. C.) 22
Ferrada Urzua (L.) 73, 106
Ferraris (L. V.) 54
Fischer (J. B.) 131
Floch (H.) 110
Friedman (J.) 49
Furcolow (M. L.) 76

García Cortes (A.) 56
Garrod (L. P.) 11, 14
Garzon (R.) 54
Gellhorn (A.) 34
Gerloff (R. K.) 63
Gordon (K. R.) 61
Gordon (M. A.) 96, 157
Grant (L. S.) 61
Grant (Virginia Q.) 84, 96
Guimarães (F. N.) 55
Guntheroth (W. G.) 76
Guyotjeannin (C.) 125

Habermann (R. T.) 21
Haley (L. D.) 3
Härö (S.) 130
Harrell (E. R.) 51
Harrison (G. K.) 35
Havyatt (M.) 160
Hazen (Elizabeth L.) 24
Heilman (F. R.) 50
Helmbright (A. L.) 77
Hoekelman (R. A.) 134
Hoffmeister (W.) 4
Holm (P.) 10
Holzworth (J.) 47
Horton-Smith (C.) 116

Innes (J. R. M.) 45
Iyer (S.) 26

Jackson (F. I.) 88
Jadassohn (W.) 113
Jaeger (R. F.) 43
Janke (D.) 9, 126, 151
Janke (R. G.) 129
Jillson (O. F.) 134
Jones, (D. O.) 22
Jordan (E. M.) 46

Kalkoff (K. W.) 9
Kaufmann (W.) 33
Kawaguchi (T.) 153
Keeney (E. L.) 5
Kennedy (P.) 89
King (A. B.) 27
Kligman (A. M.) 6, 98
Kotcher (E.) 82
Kurung (J.) 78

Lacaz (C. da S.) 7
Lanata (C.) 119
Lane (C. W.) 161
Larsh (H. W.) 21, 77
Le Blond (W.) 108
Levi (Paola) 100
Little (G. N.) 24
Long (P. H.) 13
Long (P. L.) 116
Losli (E. J.) 39
Luteraan (P.-J.) 125

Mackinnon (J. E.) 93, 94
Magriñat (G.) 81
Malfatti (M. G.) 95
Maloney (P. J.) 67
Manganiello (L. O. J.) 38
Máramosi (G.) 154
Mariat (F.) 37
Marshall (Sir G.) 2
McCormack (Paulette) 150
McVickar (D. L.) 90
Méndez Lemaitre (A.) 56
Menges (R. W.) 21
Mescon (H.) 6
Miller (J. M.) 13
Miller (Madelyn P.) 82
Mitchell (R. B.) 8
Moore (M.) 158, 161
Morant (Kathleen M.) 20
Morice 25
Morse (E. V.) 44
Mozer (J. J.) 113
Mrak (E. M.) 118

Naudascher 25
Negroni (P.) 69, 119
Neuhaus (H.) 135
Newcomer (V. D.) 64
Nicols (R. E.) 44
Noojin (R. O.) 48

Okazaki (K.) 152, 153
Olah (D.) 154
Oshima (S.) 152

Palmrose (E. C.) 39
Pappenfort (R. B.) 109
Pätiälä (R.) 121, 130
Peck (S. M.) 128
Peeters (P.) 138
Pereira Miguens (M.) 120, 132
Perlstein (W. H.) 15
Perry (K. M. P.) 2
Phaff (H. J.) 118
Pike (R. M.) 65
Pizzolato (P.) 75
Plotnick (H. D.) 16
Polunin (I.) 137
Popadić (V.) 105
Pounden (W. D.) 43
Powell (R. E.) 58
Prior (J. A.) 79

Quintero (J. M.) 30

Ranque (J.) 97
Rautavaara (T.) 121
Redaelli (P.) 1
Reiss (F.) 155
Resnick (B. S.) 24
Ring (E. D.) 40
Roberts (C. S.) 46
Robinson (V. B.) 53, 90
Roth (J.) 49
Rumball (J. M.) 41
Ryff (J. F.) 23

Salvin (S. B.) 63
Saslaw (S.) 79
Saunders (L. Z.) 89
Scharyj (M.) 87
Schell (F. G.) 53
Schnall (Edith S.) 109
Schoenbach (E. B.) 13
Schubert (J.) 84
Schwebel (S.) 156
Segretain (G.) 36, 37, 91
Seibold (H. R.) 45, 46
Sharvill (D.) 136
Simon (J.) 44
Slinger (W. N.) 156
Snoke (P. O.) 80
Snyder (W.) 156
Spaïs (A.) 92
Stanford (Sarah) 84
Stange (H.-H.) 17
Stockdale (Phyllis M.) 127
Stuart (P.) 115
Stubbs (F. H.) 68
Sulkin (S. E.) 65
Suter (L. S.) 52
Sweeny (H. E. K.) 41
Syverton (J. T.) 49
Szymona (M.) 143

Tarbet (J. E.) 64
Tassinari (G.) 72
Ten Berg (J. A. G.) 12
Tenczar (F. J.) 16
Thys (A.) 60
Tomić-Karović (K.) 105
Trimble (J. R.) 34
Tritsmans (E.) 138

Ulrich (E. W.) 52

Vaccaro (H.) 73, 106
Vanbreuseghem (R.) 60, 99, 124, 138, 139, 146, 147, 148, 149
Van Brussel (M.) 147, 148
Verge (J.) 71
Virtanen (I.) 101
Vivancos (C.) 69
Volta (W.) 122

Warrick (G. W.) 48
Wasserman (E.) 32
Weld (Julia T.) 114
Werder (A. A.) 49
Willaert (L.) 149
Williams (O. B.) 118
Williams (T. H.) 40
Willis (M. J.) 76
Winckel (W. E. F.) 86
Wright (E. T.) 64
Wünsche (K.) 28

Zanacca (G.) 19
Zapater (R. C.) 95
Ziskind (J.) 75
Zmajevich (G.) 70

SUBJECT INDEX

Achorion, 130, 140, 145, 152, 153, 154
Actinomycosis, 5, 7, 9–24
Air, fungi in the, 29, 65, 76
Allergic diseases, 5, 29, 128
Allescheria boydii, 94
Antibiotics, 1, 11, 12, 16, 52, 98–100, 109, 128, 145, 151
Aspergillosis, 2, 7, 25, 26, 116
Blastomycosis (N. Amer.), 5, 7, 48–53
Blastomycosis (S. Amer.), 54–56
Chromoblastomycosis, 57–62
Coccidioidomycosis, 65–69
Cultural studies of pathogenic fungi, 37, 63, 77, 93–96, 101, 106, 111–113, 130, 131, 146–148, 150
Dermatophytes, 129–161
Epidermophyton, 130, 131, 138, 140, 145, 147, 149, 150, 152, 153
Epizootic lymphangitis, 92
Fungicides, 8, 13, 38, 50–52, 113, 116, 122, 123, 135, 141–144, 152, 153, 155–158, 160
General, 1–7
Geotrichosis, 7
Histoplasmosis, 5, 7, 70–76, 78–91
Malassezia furfur, 123, 131
Microsporum, 130, 131, 139, 140, 142–145, 148, 154–160
Moniliasis, 5, 7, 98, 105–110, 115, 117
Mucormycosis, 5
Mycetoma, 93, 94
Mycoses of animals, 18–24, 28, 43–47, 50, 53, 55, 64, 71, 86, 89–92, 115–118
Onychomycosis, 148, 161, 164, 170
Penicillium infection, 28
Physiology of fungus pathogens, 36, 84, 94, 97, 104, 124, 127
Piedra, 120
Pityrosporum, 124
Scopulariopsis, 126
Sporotrichosis, 5, 7, 8
Technique, 6, 30, 63, 96, 114, 129, 154
Torulosis, 5, 7, 31–35, 38–41, 43–47
Trichophyton, 100, 129–132, 135, 136, 138–140, 142–145, 147, 148, 151–155, 157, 161–172

PRINTED IN GREAT BRITAIN AT THE UNIVERSITY PRESS, OXFORD
BY CHARLES BATEY, PRINTER TO THE UNIVERSITY

Volume II *Part 2*

REVIEW OF MEDICAL AND VETERINARY MYCOLOGY

Edited by

S. P. WILTSHIRE, M.A., D.Sc.
DIRECTOR, COMMONWEALTH MYCOLOGICAL INSTITUTE

in collaboration with

CHARLES WILCOCKS, C.M.G., M.D., F.R.C.P., D.T.M. & H.
DIRECTOR, BUREAU OF HYGIENE AND TROPICAL DISEASES

J. T. DUNCAN, F.R.C.S., L.R.C.P.(IRE.), D.T.M. & H.
LATELY DIRECTOR OF MEDICAL MYCOLOGY, LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE

and

W. A. POOL, M.R.C.V.S.
DIRECTOR, COMMONWEALTH BUREAU OF ANIMAL HEALTH

THE COMMONWEALTH MYCOLOGICAL INSTITUTE
KEW, SURREY

Price 5s. or $0.75 net post free

1953

NOTICE

THE literature on medical and veterinary mycology is widely scattered and frequently difficult to consult. Certain aspects of the subject are covered by various abstracting journals, but no journal covers them all. For over twenty years the *Review of Applied Mycology* abstracted papers dealing chiefly with the systematic aspect, and the *Tropical Diseases Bulletin* and the *Bulletin of Hygiene* still review selected papers from the medical point of view, but this journal aims at surveying the field completely. It lists all available papers on medical and veterinary mycology and supplies where necessary references to abstracts in other abstracting journals.

The following issues are available: 1943, 1944, 1945, 1946, 1947, 1948 at 6*s.* 0*d.* each, 1949 to 1953 at 10*s.* each, post free. Formerly known as the *Annotated Bibliography of Medical Mycology*, the name was changed to *Review of Medical and Veterinary Mycology* in 1951. The *Review* is expected to appear in two parts in each year and the price remains the same at 10*s.* per annum, post free. The subscription price is payable in advance.

Authors are requested to assist in the work by sending reprints of their papers as soon as possible after publication to the Director, Commonwealth Mycological Institute, Kew, Surrey, to whom orders and correspondence respecting the *Review* should be addressed.

A cumulative index for Volume I, covering the ten years 1943–52, is in preparation and it is hoped to issue it in 1954.

INDEX OF AUTHORS

Aboulafia, R. 359
Acker, R. F. 208
Adriano, S. 260
Aguilera Maruri, C. 428
Ahmed, V. N. 263
Ainsworth, G. C. 189, 251
Aiso, K. 210
Akün, S. 241
Albers, D. D. 356
Alguacil, D. C. G. 270
Andres, J. 239
Arai, T. 210
Aranda Reyes, B. 302
Arel, F. 335
Arnold, A. C. 200
Artagaveytia-Allende, R. C. 193

Baker, K. C. 173
Baker, R. D. 197
Barnhart, J. V. 246
Barrack, B. B. 175
Barros Saint-Pasteur, J. 278
Baum, G. L. 264
Bayo Bayo, J. M. 368, 423
Bazex, A. 285, 365
Beard, A. W. 343
Beck, F. 358
Benaim Pinto, H. 279
Bender, I. B. 202
Benenzon, R. 336
Benham, R. W. 369
Bennett, D. T. 225
Bentley, M. L. 372
Berdibayeff, U. B. 382
Bereston, E. S. 375
Bergamasco, A. 386
Bieberdorf, F. W. 238
Birsner, J. W. 297
Bisgahard-Frantzen, H. 396
Blanco, M. C. 336
Blank, F. 383
Bocobo, F. C. 199, 392
Bogliolo, L. 280, 291
Bond, W. H. 318
Borkowska-Trippenbach, B. 361
Bos, J. 294
Brabetz, V. 424
Brena Zorrilla, M. 428
Breslau, A. M. 290
Brown, R. 209
Brown, S. 308
Brutsaert, P. 334
Bushueff, B. P. 293

Campbell, C. C. 310
Canto Borreguero, G. 229
Caravaglios, F. 306
Caroline, L. 168
Carter, C. F. 191
Carton, C. A. 269
Casanovas, M. 384, 385
Castleton, K. B. 179
Catanei, A. 395
Cawthron, K. S. 374
Chamberlain, D. M. 333
Chapnick, H. A. 299
Chaves, R. 220
Chinn, H. I. 200
Chortis, P. 245
Chute, H. L. 250
Clarke, G. H. V. 394
Claveleau, 330
Cohen, R. 294, 300
Cole, C. R. 333
Collier, W. A. 281, 323, 324, 325, 326, 327
Costello, M. J. 405
Cozad, G. C. 303
Crawford, O. W. 316
Cremer, G. 393
Cruikshank, R. 362

Da Silva, N. N. 432
Davies, W. H. Jr. 321
Dayalu, T. K. 263
De Bonis, U. 425
De Carvalho, M. da C. M. 282
De La Fuente, A. A. 323
De Larramendi, A. E. M. 198
De Ledesma, J. P. R. 270
D'Eshougues, J. R. 230
Despois, R. 201
Dowe, J. B. 308
Doyne, E. E. 226
Drouhet, E. 176, 181, 182, 187
Dubois, A. 334
Dupré, A. 365
Durie, E. B. 308
Dykes, J. 297

Eggert, M. J. 246
Eisman, P. C. 357
Ellis, F. F. 315
Elton, N. W. 277
Emmons, C. W. 276
Erikson, D. 212
Evans, E. E. 268

Fahlberg, W. J. 410
Farina, R. 288
Faure, J. 388
Featherston, W. M. 421
Fink, J. C. 258
Fischer, E. 397
Fitzpatrick, T. J. 313
Fleger, J. 167
Floch, H. 322
Fountaine, J. 292
Franks, A. G. 422
French, A. J. 286
Fréour, P. 330
Frisk, A. 352
Fuentes, C. A. 359
Fuller, C. J. 253
Furcolow, M. L. 303, 304
Furtado, T. A. 283

Gaballo, S. 425
Gadrat, J. 365
Garcia-Cabral, R. V. 195
García-Zorrón, N. 193
Gaud, J. 388
Geftic, S. G. 357
Georg, L. K. 170, 171, 409
Glosson, J. R. 188
Gold, L. 226
Gombert, H. J. 231
Goodman, J. R. 292
Gordon, M. A. 400, 427
Goto, M. 429, 430
Götz, H. 413, 415
Graham, C. S. 308
Grayston, J. T. 304
Grimmer, H. 387
Gruber, M. D. 213
Grunberg, E. 371
Gurri, J. 194
Gutierrez, P. 392

Hall, R. H. 267
Hamilton, O. A. 412
Hare, P. J. 373
Harris, T. L. 419
Haskell, B. F. 314
Hawks, G. H. 273
Hazen, E. L. 209
Heidsieck, C. 216
Heiligman, E. M. 419
Hennemann, H. H. 329
Hirai, T. 204
Hitch, J. M. 420
Holmes, S. J. 273
Honorato-Chaparro, A. 301
Hopkins, J. E. T. 262
Hopkins, J. G. 412
Hopper, M. E. 374, 389
Hosoya, S. 203
Hughes, J. W. 379

Ikeda, Y. 204
Ingalls, E. G. 217
Inglis, J. A. 307
Iverson, L. 309

Janke, D. 337, 431
Janssens, P. G. 334
Jayaram, S. S. 263
Johnson, C. W. 271
Johnson, J. E. 320
Joress, M. H. 293
Joyner, J. W. 271

Kalkoff, K. W. 413
Karrer, H. E. 298
Kelly, F. 218
Kiesselbach, M. R. 412
Kimmig, J. 413
Kirksey, O. T. 274
Kletter, G. 281
Kligman, A. M. 205
Klose, F. 353
Komatsu, N. 203
Königsbauer, H. 331
Koons, R. C. 218
Körtge, P. 244
Krastelevskaya, S. A. 367
Kurung, J. M. 311
Kutscher, A. H. 215, 220
Kvisselgaard, N. 328

Labeguerie, M. 243
Lacaz, D. da S. 433
Lamb, J. H. 218
Lanata, C. A. 275
Lane, S. L. 215, 220
Lang, J. 418
Larbiner, G. W. 185
La Touche, C. J. 172
Lefrou, G. 178
Levitt, H. 162, 419
Levy, E. D. P. 259
Lewis, F. S. 205
Lewis, G. M. 374, 389
Liebig, C. S. 269
Lima, A. O. 254, 429, 430
Lingamfelter, C. S. 412
Loefer, J. B. 207
Loewenthal, K. 380
Löhlein, W. 358
Long, P. H. 261
Lorenz, 221

MacCurdy, J. M. 320
Machado, J. 282
Mackinnon, J. E. 193, 194, 301
Maeda, K. 206
Malone, J. T. 173
Mankowski, Z. 341
Mariat, F. 176, 181, 182, 187
Marshall, T. M. 272
Martin, E. A. 343
Mason, A. 209
Mason, L. M. 188
Maunsell, K. 255
Mayer, R. L. 357
McClary, D. O. 340
McCormick, W. C. 188
McRae, M. E. 408
McVay, L. V. 236
Memmesheimer, A. M. 413
Mendelblatt, D. L. 345
Mendeloff, J. 267
Merendino, K. A. 217
Merle-Béral, M. J. 223
Miescher, G. 169
Miller, J. M., 261, 315
Mitchell, J. H. 364
Mitchell, R. B. 200
Monod, O. 243
Monroe, J. 311
Moore, E. N. 249
Moore, J. G. 227
Morquer, R. 285
Moursund, M. P. 258
Müller, I. 342
Murphy, J. D. 262
Murphy, R. J. 321
Muth, J. 289

Negroni, P. 275
Neiman, B. H. 313
Neufeld, O. 344
Neves, J. A. 291
Newcomer, V. D. 163
Nickerson, W. J. 341
Nikolowski, W. 342, 354
Nishimaki, T. 204
Nordén, Å. 183

Ocklitz, H. W. 233
Ogi, K. 210
Okami, Y. 206
Orban, T. D. 180
O'Reilly, M. J. J. 219
Orie, N. G. M. 346
Ortenzio, L. F. 407

Paine, T. F. 355
Pariser, H. 259
Pec, J. 414
Peck, S. M. 411
Peña Yanez, J. 378
Pereiro Miguens, M. 368, 423.
Perry, R. P. 271
Pesle, G. D. 243
Petříková, J. 232
Pfister, R. 399
Pierce, H. E. 185
Pignot, M. 426
Pinkerton, H. 309
Pinto-Lopes, J. 195
Pitt, C. K. 317
Plunkett, O. A. 162
Porteous, J. W. 212
Powell, R. E. 219, 307
Prior, J. A. 333
Puget, E. 285

Rallo, A. 305
Rankin, N. E. 242
Raton, D. 347
Raubitschek, F. 208
Rawson, A. J. 259
Rebell, G. 218
Rees, V. L. 179
Reid, J. D. 177
Reiersøl, S. 256
Reiss, F. 168
Reynell, P. C. 343
Ribeiro, D. de O. 433
Richter, R. 413
Rigdon, R. H. 274
Robinson, C. F. 180
Rocha, G. L. 429, 430
Rohn, R. J. 318
Rohrschneider, W. 431
Rossier, P. H. 349
Rothman, S. 390, 391
Ruckett, T. F. 319
Rumrich, A. 235
Russell, S. R. 286
Rust, S. 387

Sala, E. C. 336
Salatitch, B. 214
Salm, G. 388
Salvin, S. B. 332
Sattler, L. 329
Saunders, W. 377
Schiff, B. L. 184
Schleifstein, J. 265
Schneider, G. 222
Schoenbach, E. B. 261
Schreus, H. T. 413
Schultz, D. M. 312
Schuppli, R. 413
Schürmann, R. 353
Schwarz, J. 260, 264, 289, 359
Scott, M. J. 389
Scott, R. J. 315
Segesman, J. K. 297
Seltzer, S. 202
Semmler, U. 329
Shackelford, P. O. 218
Sharvill, D. 366
Shidara, I. 210
Shuttleworth, J. S. 261
Sicault, G. 388
Silva, C. 429
Silva, G. [? C.] 430
Silva, M. 370
Sirsi, M. 263
Slim Villegas, V. J. 302
Smith, A. L. 191
Smith, C. H. 228
Smulewicz, J. 350
Snider, G. E. 261
Soares, J. A. 433
Soeda, M. 203
Sonck, C. E. 169
Spada, C. 398, 406
Spoor, H. J. 411
Sprunt, D. H. 236
Stein, H. F. 295
Sternberg, T. 163
Stockdale, P. M. 404
Story, L. F. 240
Stubben, B. 338
Studdert, T. C. 252
Stühmer, H. 164
Subramaniam, R. 234
Sullivan, M. 375
Syrop, H. M. 215
Szwejkowski, H. 361

Tager, M. 296
Takos, M. J. 277
Tanaami, T. 210
Tarbet, J. E. 163, 290
Taya, O. 206
Tchobanian, H. K. 166
Teusch, W. 211
Thomas, B. A. 376
Thomas, C. C. 185
Titsworth, E. 371
Tompkins, V. 265
Traub, E. F. 411
Trenchi, H. 247
Treurniet, A. E. G 326
Tucker, H. A. 328

Ulrich, J. A. 165
Umezawa, H. 206

Vanbreuseghem, R. 287, 363, 401, 402, 403
Van Brussel, M. 401, 402, 403
Van den Akker, S. 186
Vanderploeg, D. E. 258
Van der Werff, P. J. 257
Vaněček, R. 232
Van Uden, N. 195, 284
Vilanova, X. 384, 385
Vincent, J. 292
Vinelli, H. 194
Vorreith, M. 351

Waksman, S. A. 208
Walker, J. 394
Wallbank, W. L. 344
Wallner, E. 416
Wanson, M. 287
Waterson, A. P. 237
Webb, P. A. 294, 300
Weber, W. E. 165
Wedgwood, J. 237
Wegmann, T. 192, 266
Weichlein, R. G. 207
Weidlich, N. 248
Weiner, M. A. 174
Weiss, E. D. 314
Weld, J. T. 339
Whittle, H. 381
Wildervanck, A. 324, 327
Wilson, J. W. 162, 419
Winckel, W. E. F. 281, 324, 325, 326, 327
Winer, L. H. 163
Witter, J. F. 250
Wolff, L. 211

Zaffran, A. 230
Zapater, R. C. 196
Zegarelli, E. V. 215
Zimmermann, O. 417
Zini, F. 360
Zitka, E. S. 224
Zonchello, A. 406

SUBJECT INDEX

Acladium castellanii, 284
Actinomycosis, 211–41
Air, fungi in the, 251, 255
Antibiotics, 201–10, 214, 217, 221, 224–6, 230–1, 233, 235–7, 242, 244–5, 269, 272, 300, 336–7, 348–55, 358, 409, 422, 425
Aspergillosis, 242, 250, 256–7
Asthma, 254
Blastomycosis (N. Amer.), 258–60, 262–7, 310
Blastomycosis (S. Amer.), 278–83
Cephalosporium, 186, 431
Chromoblastomycosis, 286–8
Coccidioidomycosis, 289–302, 310
Cultural studies of pathogenic fungi, 193, 212, 238, 303, 338–41, 369–71, 393, 397, 401–4
Dermatophytes, 162–72, 362–424
Epidermophyton, 362, 364, 368, 399, 401, 403, 414–15, 417, 423
Fungicides, 200, 202, 217–18, 220, 230, 235, 240, 244–5, 257–62, 267, 271, 308, 315, 331, 364, 368, 407, 410–12, 414, 416–25
General, 189–99, 252–3, 358
Histoplasmosis, 301–34, 400
Malassezia furfur, 425–8
Microsporum, 362, 368, 372–82, 385, 392, 394, 400–2, 406, 411–12, 420, 422–3
Moniliasis, 242, 253, 285, 338–57, 359–61, 364, 411, 419
Mycetoma, 218, 335–6
Mycoses of animals, 237–41, 246–50, 276–7, 285, 325, 331–3
Penicillium infection, 256
Physiology of fungus pathogens, 199
Pityrosporum, 427, 429–30
Sporotrichosis, 173–85, 187–8, 432–3
Technique, 309, 339, 341, 366–7, 409
Torulopsis, new species of, 284
Torulosis, 261, 266, 268–77, 410
Trichophyton, 162–72, 362, 364, 368, 371–2, 382, 384, 386–99, 401–7, 411, 416, 418–19, 422–3

ERRATUM

Vol. 2, Part 1. Abstract No. 110, ll. 2 and 5: for 'Guinea' read 'Guiana'.

PRINTED IN GREAT BRITAIN AT THE UNIVERSITY PRESS, OXFORD
BY CHARLES BATEY, PRINTER TO THE UNIVERSITY

GOA

Volume II *Part 3*

REVIEW OF MEDICAL AND VETERINARY MYCOLOGY

Edited by

S. P. WILTSHIRE, M.A., D.Sc.
DIRECTOR, COMMONWEALTH MYCOLOGICAL INSTITUTE

in collaboration with

CHARLES WILCOCKS, M.D., F.R.C.P., D.T.M. & H.
DIRECTOR, BUREAU OF HYGIENE AND TROPICAL DISEASES

J. T. DUNCAN, F.R.C.S., L.R.C.P.(IRE.), D.T.M. & H.
LATELY DIRECTOR OF MEDICAL MYCOLOGY, LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE

and

W. A. POOL, M.R.C.V.S.
DIRECTOR, COMMONWEALTH BUREAU OF ANIMAL HEALTH

THE COMMONWEALTH MYCOLOGICAL INSTITUTE
KEW, SURREY

Price 5s. or $0.75 net post free

1954

NOTICE

THE literature on medical and veterinary mycology is widely scattered and frequently difficult to consult. Certain aspects of the subject are covered by various abstracting journals, but no journal covers them all. For over twenty years the *Review of Applied Mycology* abstracted papers dealing chiefly with the systematic aspect, and the *Tropical Diseases Bulletin* and the *Bulletin of Hygiene* still review selected papers from the medical point of view, but this journal aims at surveying the field completely. It lists all available papers on medical and veterinary mycology and supplies where necessary references to abstracts in other abstracting journals.

The following issues are available: 1943, 1944, 1945, 1946, 1947, 1948 at 7*s.* 6*d.* each, 1949 to 1953 at 10*s.* each, post free. Formerly known as the *Annotated Bibliography of Medical Mycology*, the name was changed to *Review of Medical and Veterinary Mycology* in 1951. The *Review* is now appearing in two parts in each year and the price remains the same at 10*s.* per annum, post free. The subscription price is payable in advance.

Authors are requested to assist in the work by sending reprints of their papers as soon as possible after publication to the Director, Commonwealth Mycological Institute, Kew, Surrey, to whom orders and correspondence respecting the *Review* should be addressed.

PRINTED IN GREAT BRITAIN
AT THE UNIVERSITY PRESS, OXFORD
BY CHARLES BATEY, PRINTER TO THE UNIVERSITY

INDEX OF AUTHORS

Ahumada (J.) 529
Ajello (L.) 600
Alayon (F.) 505
Altshuler (C. H.) 492
Alvarez Lara (R.) 624
Anderson (Lucia E.) 452
Aronson (S. M.) 576
Artageveytia Allende (R. C.) 501
Atkinson (E. A.) 519
Azulay (R. D.) 503, 504

Bairstow (B.) 484
Baker (L. A.) 484
Bakerspigel (A.) 578
Barlow (A. J. E.) 601
Barwasser (N. C.) 506
Batte (E. G.) 635
Batts (E. E.) 591
Baylin (C. J.) 482
Benedek (T.) 602
Benham (Rhoda) 576
Bereston (E. S.) 592, 593, 594, 599
Berman (R. J.) 508
Bertani (M.) 459, 460
Bielinski (S.) 485
Blainey (J. D.) 456
Bocobo (F. C.) 516
Bouillenne (R.) 638
Bouillenne-Walrand (M.) 638
Braccini (L.) 521
Bruskin (Sybil) 474, 475
Bueno de Mesquita (S. J.) 524
Burke (F. G.) 559
Burkett (L. L.) 537

Cader (E. T.) 551
Campbell (C. C.) 539
Camphyn (R.) 510
Caputi (F.) 552
Carney (J. W.) 595
Caroline (Leona) 616
Carsjens (F. W.) 495
Carter (Evelyn B.) 564
Castellano (G. A.) 451
Chamberlain (D. M.) 546
Charr (R.) 535
Chattaway (P. W.) 601
Christison (I. B.) 453
Cipollaro (A. C.) 605, 648
Clarke (G. H. V.) 522
Clarke (P. R. R.) 575
Coffey (G. L.) 452
Coffin (D. L.) 500
Cohen (A. C.) 553
Cohen (R.) 514
Cole (C. R.) 546, 547
Cole (H. N.) 649
Collier (T. W.) 476
Collier (W. A.) 525
Conant (N. F.) 453
Costello (M. J.) 619, 623
Coutts (W. E.) 450
Crispell (L. S.) 532
Cummins (C. R.) 484
Cupp (H. B.) 536
Curtis (A. C.) 516

Daniels (G.) 598
Da Silva (M. E.) 468
Davies (D. M.) 464
Dean (F. M.) 636
Deiamater (E. D.) 483
Deoras (S. M.) 647
Derzavis (J. L.) 615
Dicke (R. J.) 471
Dougherty (J. W.) 583
Driver (J. R.) 649
Drouhet (E.) 434, 610
Duryea (A. H.) 544

Ebert (R.) 554
Ehrlich (J.) 452
Eiman (J. W.) 574
Emde (K. H.) 584
Emmons (C. W.) 559

Fahlberg (W. J.) 454, 555
Farrell (R. L.) 546, 547
Ferguson (Betty A.) 476
Figg (F. H. J.) 592, 593, 594
Finch (P. G.) 457
Fishman (I. M.) 618
Forsey (R. R.) 488
Freeman (Elizabeth S.) 549
French (E. Elizabeth) 532
Friedman (Lorraine) 508
Friou (G. J.) 556
Furcolow (M. L.) 531, 545

Gasner (W. G.) 623
Gay Prieto (J.) 624
Giampiccolo (P.) 458
Gifford (M. A.) 514
Giolitti (G.) 459, 460
Gleiser (C. A.) 577
Gonçalves (A. P.) 609
González Ochoa (A.) 467
Gordon (M. A.) 536, 597
Götz (H.) 586
Gray (M.) 611
Grayston (J. T.) 531
Gridley (Mary F.) 445
Grieve (W. S. M.) 519
Gruber (M. D.) 463
Guimarães (N.) 468

Hackney (Alice L.) 527
Hahn (H.) 640
Halde (C.) 518
Haley (L. D.) 530
Hall (B. D.) 499
Hall (W. H.) 528
Hardy (A. V.) 549, 571
Hare (P. J.) 589
Harrell (E. R.) 516
Hibino (S.) 540
Hillegas (A. B.) 452
Hilliers (A. A.) 525
Hinshaw (W. R.) 455
Hinson (K. F. W.) 478
Hinton (A.) 545
Hoffert (W. R.) 549
Höhle (P.) 625
Holzworth (Jean) 500
Homma (A.) 633
Howell (A.) 469
Hughes (F.) 537

Indoh (H.) 481
Israel (H.) 517
Ito (K.) 626, 627, 628, 629, 630, 631
Izarn (P.) 581

Jackson (R.) 488
Janke (R. G.) 448
Jaqueti del Pozo (G.) 624
Jillson (O. F.) 532
Johnsen (J.) 568, 569, 570
Jones (Muriel M.) 564
Joulia (P.) 557
Jung (H.-D.) 632, 642

Kaden (R.) 607
Kastrup (H.) 479
Katayama (R.) 540
Kessler (A.) 477
Keys (R. J.) 549
Kile (R. L.) 572
Klemptner (H. E.) 489
Kligman (A. M.) 574, 611
Knudsen (Mildred P.) 452
Koepsell (H. J.) 452
Kohberger (Dorothy L.) 452
Koons (R. C.) 435
Krüger (H.) 585
Krumenacher (F. P.) 558
Kull (F. C.) 451
Kuroda (P. K.) 628
Kuroda (T.) 630
Kurzon (A. M.) 563

Lamb (J. H.) 435, 447, 620
Larsh (H. W.) 545
Larson (R.) 512
La Touche (C. J.) 604
Lauze (S.) 497
Layton (J. M.) 490
Lazar (M. P.) 612
Le Coulant (P.) 557
L'Épée 557
Levitt (H.) 595
Lewis (G. M.) 583
Licitis (Rasma) 472
Lightwardt (H. E.) 492
Lima (L. P. de C.) 560
Lindemayr (W.) 579
Linell (F.) 496
Livingood (C. S.) 614
Locket (S.) 519
Lofgren (R. C.) 591
Lopez Fernandes (J. R.) 502
Ludwig (J. S.) 613
Lyons (R. E.) 614, 615

Maeda (S.) 627
Magni (G. E.) 493
Magnusson (B.) 496
Majewski (C. Z.) 617
Manos (N. E.) 541
Mardis (R. E.) 499
Margarot (J.) 581
Mariat (F.) 434
Marshak (L. C.) 486
Martin (H. L.) 446
Martin (M.) 509
Matras (A.) 580
Mayer (R. L.) 451
Mescon (H.) 574
Miller (W. S.) 635
Mitchell (R. B.) 549, 579
Monash (S.) 596
Moon (A. J.) 478
Moore (M.) 449
Morgan (H. J.) 538
Morgan (R. J.) 620
Morris (E. O.) 456
Moss (Emma S.) 441
Mountain (D. C.) 558
Moura (R. de A.) 560
Muncie (J. E.) 650
Muskatblit (E.) 644
McGovern (J. J.) 559
McKee (A. P.) 490
McNamara (J. W.) 615
McQuown (A. L.) 441
McVay (L. V.) 470

Nechtow (M. J.) 563
Negroni (P.) 442
Netto (J. L.) 560
Newcomer (V. D.) 515
Nickerson (W. J.) 437, 438, 561
Nicora (G.) 562
Norden (A.) 496

Okazaki (K.) 633
Olah (I.) 590
Olivares (O.) 529
Ota (N. 626
Oyaas (J. E.) 452

Pappagianis (D.) 508
Paredes (L.) 529
Parrott (H. H.) 559
Peña Yanez (J.) 624
Pierce (L. V.) 571
Plummer (N. S.) 478
Plunkett (O. A.) 513
Popper (H.) 462
Porter (I. A.) 461
Porto (J. A.) 634
Pozo (S.) 529
Price (H.) 622
Prior (J. A.) 546, 547
Puckett (T. K.) 533
Purandare (N. M.) 647

Randall (C. C.) 526, 527
Raper (K. B.) 636
Raphael (S. S.) 443
Rasch (S.) 568, 569, 570
Rattner (H.) 485
Rebell (G.) 447
Reich (J. B.) 563
Reich (W. J.) 563
Reid (D. J.) 564
Reiersøl (S.) 548
Reiss (F.) 439, 616
Reyes (A. C.) 518
Rice (E. C.) 559
Richards (M.) 473
Richter (R. B.) 554
Rimbaud (P.) 581
Rioux (J.-A.) 581
Roberts (J. C.) 636
Robertson (A.) 636
Robinson (H. M.) 592, 593, 594, 599
Rockwell (E.) 572
Rodin (H.) 485
Rodriquez (J.) 487
Rosenbaum (E. M.) 616
Rosenwald (A. S.) 455
Ross (S.) 559
Roth (W.) 587
Rust (S.) 585

Sakula (A.) 520
Sampaio (S. A. P.) 505
Sanderson (P. H.) 588, 606
Saslaw (S.) 539, 546, 547
Savidge (R. S.) 464
Schaffer (N.) 474
Schepel (J. A. C.) 495
Scherb (R. E.) 512
Scherr (G. H.) 565
Schreus (H. T.) 584
Schulman (S.) 554
Schwanitz (F.) 640
Schwarz (J.) 443, 543, 572, 621
Scorer (C. G.) 465
Seidmon (E. E.) 474
Seligmann (E.) 566
Shackelford (P. O.) 435, 620
Shapiro (J.) 538
Shiels (J.) 467
Silva (Edna) 450
Simon (C. R.) 621
Singer (D. E.) 549, 571
Singer (J. I.) 650
Sloper (J. C.) 588, 606
Smith (C. E.) 508, 513
Snapper (I.) 462
Sprunt (D. H.) 470
Stamler (F. W.) 490
Standish (E. M.) 583

INDEX OF AUTHORS (*continued*)

Sternberg (T. H.) 515
Stillians (A. W.) 489
Stockmann (G.) 643
Stott (H. M.) 523
Subotnik (N.) 563
Sugano (S.) 629, 631
Sutliff (W. B.) 537
Symmers (W. St. C.) 494
Szabó (G.) 641

Takahashi (I.) 637
Takashima (T.) 540
Tarbet (J. E.) 515
Taschdjian (Claire L.) 567, 644
Taylor (D. R.) 622
Texier 557
Thjötta (T.) 568, 569, 570
Thompson (C. C.) 601
Trejos (A.) 573
Triglianos (A.) 480
Tritsmans (E.) 645
Tropeano (A.) 507
Troxell (M. A.) 542
Turner (Dorothy J.) 526
Tuttle (J. G.) 492

Ulrich (Elizabeth) 436, 537
Úri (J.) 641

Vaccaro (H.) 529
Vanbreuseghem (R.) 444, 645
Van de Erve (J.) 582
Vargas-Salazar (R.) 450
Vázquez (P.) 467
Vivancos Gallego (G.) 608

Walker (Jacqueline) 522
Wangensteen (O. H.) 462
Wear (J. M.) 482
Weed (L. A.) 491
Weller (C. W.) 615
Whitlock (F. A.) 646
Wilkerson (W. W.) 534
Wilson (H. M.) 544
Wilson (J. W.) 511, 513, 595
Winckel (W. E. F.) 525
Winer (L. H.) 515
Winston (R. M.) 522
Wolf (A.) 576
Wooldridge (W. E.) 639
Wright (E. T.) 515

Yawn (E. C.) 571
Yeaman (A.) 595
Young (C. J.) 620
Young (J. C.) 435
Young (J. M.) 436

Zinneman (H. H.) 528

SUBJECT INDEX

Actinomycosis, 450, 456–71, 482
Air, fungi in the, 472–7
Allergic diseases, 472–7
Allescheria boydii, 576
Antibiotics, 446–7, 452, 468–9, 499, 514, 544, 571, 612, 625, 627, 636–7, 640
Aspergillosis, 450, 455, 478–81, 549
Blastomycosis (N. Amer.), 482–92, 555, 558–63
Blastomycosis (S. Amer.), 503–5
Chromoblastomycosis, 506, 573
Coccidioidomycosis, 507–18
Cultural studies of pathogenic fungi, 617, 645
Dermatophytes, 556, 578–645
Epidermophyton, 589, 606, 639–40, 645
Fungicides, 451, 453–4, 466–70, 484–8, 516, 581–2, 587, 590, 595–6, 601–2, 607, 609, 614–16, 626, 628–31, 633, 635, 638–9, 641, 643
General, 437–44, 574, 577, 586
Geotrichum, 570
Histoplasmosis, 490–1, 502, 518–47
Madura foot, *see* Mycetoma
Madurella, 449, 454
Malassezia furfur, 445, 634, 643–4
Microsporum, 446–7, 454, 589, 592–604, 622, 624, 627, 635–6, 639–40
Moniliasis, 448–50, 455, 548–70, 572, 581–2, 644
Mucormycosis, 577
Mycetoma, 574–5
Mycoses of animals, 455, 471, 481, 500, 546–7, 598, 604, 635, 650
Physiology of fungus pathogens, 589, 592–4, 598, 608, 610, 624, 646
Pityrosporum, 646
Rhinosporidiosis, 440, 647
Scopulariopsis, 642
Soil as a source of human pathogenic fungi, 597, 600
Sporotrichosis, 434–6, 454, 648–50
Technique, 445, 460, 578, 591, 614, 634, 644
Torulosis, 493–500
Trichophyton, 446–7, 451, 454, 567, 582, 589, 595, 605–41, 645
Yeast-like fungi, 501–2

Volume II *Part 4*

REVIEW OF MEDICAL AND VETERINARY MYCOLOGY

Edited by

S. P. WILTSHIRE, M.A., D.Sc.
DIRECTOR, COMMONWEALTH MYCOLOGICAL INSTITUTE

in collaboration with

CHARLES WILCOCKS, M.D., F.R.C.P., D.T.M. & H.
DIRECTOR, BUREAU OF HYGIENE AND TROPICAL DISEASES

J. T. DUNCAN, F.R.C.S., L.R.C.P.(IRE.), D.T.M. & H.
LATELY DIRECTOR OF MEDICAL MYCOLOGY, LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE

and

W. A. POOL, M.R.C.V.S.
DIRECTOR, COMMONWEALTH BUREAU OF ANIMAL HEALTH

THE COMMONWEALTH MYCOLOGICAL INSTITUTE
KEW, SURREY

Price 5s. or $0.75 net post free

1954

NOTICE

THE literature on medical and veterinary mycology is widely scattered and frequently difficult to consult. Certain aspects of the subject are covered by various abstracting journals, but no journal covers them all. For over twenty years the *Review of Applied Mycology* abstracted papers dealing chiefly with the systematic aspect, and the *Tropical Diseases Bulletin* and the *Bulletin of Hygiene* still review selected papers from the medical point of view, but this journal aims at surveying the field completely. It lists all available papers on medical and veterinary mycology and supplies where necessary references to abstracts in other abstracting journals.

The following issues are available: 1943, 1944, 1945, 1946, 1947, 1948 at 7*s.* 6*d.* each, 1949 to 1953 at 10*s.* each, post free. Formerly known as the *Annotated Bibliography of Medical Mycology*, the name was changed to *Review of Medical and Veterinary Mycology* in 1951. The *Review* is now appearing in two parts in each year and the price remains the same at 10*s.* per annum, post free. The subscription price is payable in advance.

Authors are requested to assist in the work by sending reprints of their papers as soon as possible after publication to the Director, Commonwealth Mycological Institute, Kew, Surrey, to whom orders and correspondence respecting the *Review* should be addressed.

A CUMULATIVE INDEX OF VOLUME I OF THE REVIEW OF MEDICAL AND VETERINARY MYCOLOGY

covering the years 1943–1952 *is now available, price* 20*s. net, post free. Orders should be addressed to the Director, Commonwealth Mycological Institute, Kew, Surrey, England*

INDEX OF AUTHORS

Ainsworth (G. C.) 843, 844, 845
Ajello (L.) 651, 720, 874
Akün (R.) 729, 730
Albrecht (J.) 764
Alfonso - Armenteros (J.) 846
Alix Y Alix (J.) 757
Almeida (F. P. de) 723
Alvarez Bravo (A.) 808
Alvarez de Choudens (J. A.) 752
Amino (E.) 827
Amlie (R.) 809
Amrein (H. P.) 850
Anderson (A. E.) 700
Andleigh (H. S.) 821
Andreu Urru (J.) 758
Ansel (M.) 799
Ansell (H. B.) 911
Arroyo (L.) 714
Artagaveytia-Allende (R. C.) 714
Aufdermaur (M.) 913
Ausherman (R. J.) 789
Austwick (P. K. C.) 910
Ayres (S.) 880

Bacon (A. E.) 747
Bank (E.) 839
Baranda (F.) 672
Barbosa (F. S.) 721
Basiliou (B.) 818
Baum (G. L.) 707
Beare (J. M.) 853, 854
Beaver (D. J.) 871
Bebin (J.) 746
Beebe (R. T.) 811
Beerens (H.) 666
Benham (Rhoda W.) 748, 873
Berengo (A.) 687
Berg (H.) 855
Bergmann (J. W.) 849
Beurey (J.) 835
Bieberdorf (F. W.) 662
Bilse (I. M.) 904
Binkley (Grace E.) 772
Black (C. I.) 705
Blank (F.) 732, 909
Boatwright (H.) 857
Bocobo (F. C.) 914
Bouckaert (A.) 753
Bouvet (R.) 677
Boyer (P.) 753
Brendler (Renate) 866
Britto (T. de) 723
Brown (C.) 811
Brown (Shirley) 652
Brueck (J. W.) 724
Buddingh (G. J.) 724
Buechner (H. A.) 700
Burke (F. G.) 807
Burke (Ruth C.) 732
Büscher (Liselotte) 813

Campbell (Charlotte C.) 772, 791
Campins (H.) 722, 785
Canto Borreguero (G.) 757
Caputi (F.) 815
Caroline (Leona) 862
Carpenter (A. M.) 814
Carton (C. A.) 742
Casanovas (M.) 907
Casas Carnicero (J.) 776
Castro (A.) 739
Cawley (E. P.) 857
Chakravarty (N. K.) 782
Champeau (M. F.) 796
Cheeseman (E. A.) 854
Cheu (S.) 743
Clark (D. S.) 696
Cohen (M. M.) 847
Colaert (J.) 755
Conant (N. F.) 726
Cook (L. G.) 725
Cooke (W. B.) 767
Coolidge (Mary H.) 848
Cordy (D. R.) 744
Couteau (Mlle M.) 800
Crowl (W. B.) 696
Curtis (A. C.) 914

Da Silva (N. N.) 745
De Carvalho (A.) 715
Degand (J.) 816
Degos (R.) 860
De Urioste (R.) 667
De Vriese (J.) 793
Dewulf (L.) 867
Dey (N. C.) 881
Dias (V. M.) 912
Diller (Irene C.) 828
Drake (C. H.) 819
Drouhet (E.) 800
Dubois (A.) 794
Durie (E. Beatrix) 652

Early (L.) 811
Egeberg (R. O.) 733, 734
Edelson (E.) 876
Ehrmann (G.) 817
Einbinder (Julia M.) 748
Emmons (C. W.) 792, 807
Engel (S. L.) 904
Englander (G. S.) 797
Evans (E. E.) 749
Everding (C. J.) 684

Fazakas (A.) 663
Fazakas (S.) 664
Feo (M.) 717
Ferraris (F.) 825
Fiese (M. J.) 743
Fischer (E.) 895, 913
Fleury (C.) 690, 801, 803, 829
Floch (H.) 786
Fois (A.) 781
Fox (H.) 780
Fox (P. B.) 883
Friderich (H.) 872
Furcolow (M. L.) 765, 788

Gale (G. R.) 875
Garvin (W. H.) 724
Gatti (F.) 878
Gauthier (Cécile) 799
Gelli (G.) 831
Georg (Lucille K.) 845, 908
Getz (M. E.) 874
Gilmour (I. E.) 676
Glaesmer-Zaff (M.) 668
Gleiss (J.) 813
Goldstein (N.) 877
Goncalves (A. P.) 864
González Ochoa (A.) 669, 671, 672
González Ramos (M.) 808
Gordeeff (A.) 711
Götz (H.) 665, 866, 884
Granitz (J.) 886
Grasset (E.) 803
Grégoire (P. E.) 689
Gregory (F. J.) 704
Grove (Frances E.) 858
Grün (L.) 813
Guest (C. M.) 811
Gustus (E. L.) 833

Haberman (R. T.) 792
Haddad (N.) 711
Hadden (J. C.) 814
Halpert (B.) 742
Hanf (Ursula) 673
Hänig (Else) 885
Harlacher (A.) 675
Harrell (E. R.) 914
Haschek (H.) 654
Haskin (A. H.) 876
Hata (J.) 887
Hazen (Elizabeth L.) 661, 773
Headley (W. H.) 750
Heinemann (B.) 694
Heinrich (S.) 673
Hennemann (H. H.) 775
Henricke (S. G.) 868
Hevia (H.) 681
Hewell (Barbara A.) 774
Hiddlestone (H. J. H.) 692
Hill (B. H. R.) 725
Hill (Grace B.) 791
Hinton (Agnes) 788
Hodges (Elizabeth P.) 791
Holtermann (H.) 888
Hooper (I. R.) 694
Horta (J. da S.) 783
Howles (J. K.) 705, 724
Huber (K.) 693
Hueck (O.) 675
Humphreys (R. J.) 709
Hunter (M. C.) 871
Huntington (P. W.) 747
Hurd (R. C.) 819

Iaricci (V.) 741
Ibach (Martha J.) 765
Ida (T.) 887
Ink (J.) 741
Ironson (E. J.) 704

Jakob (A.) 784
Janke (R. G.) 824, 886
Jay (D. H.) 744
Jervis (O.) 719
Jiménez Díaz (J.) 810
John (S.) 812
Jones (E. L.) 696
Jones (R. W.) 863
Jonsen (T.) 820
Jordan (F. T. W.) 837
Jung (H.-D.) 856, 889

Kabler (P. W.) 767
Kaden (R.) 659, 890, 891
Kalliomäki (L.) 892
Kaplan (M. A.) 694
Karayeva (Mme Z. M.) 900
Karrer (H.) 726
Kasliwal (R. M.) 821
Kaur Dhariwal (G.) 782
Kennedy (C. B.) 724
Kessler (A.) 697
Kessler (P. N.) 763
King (W. C.) 893
Kiseleva (Mme M. L.) 840
Köhlmeier (W.) 756, 823
Königsbuer (H.) 759, 761a
Koutrolikos (D.) 712
Kreitner (H.) 756
Krisch (E.) 784
Kugel (E.) 675
Kurung (J. M.) 769

Lacaz (C. da S.) 698
Lacaz (C. S.) 716
Lack (A. R.) 733
Lamb (J. H.) 859
Landis (F. B.) 701
Lares Campos (C.) 717
Larsh (H. W.) 765
Lautié (R.) 686
Lavier (G.) 706
Lawonn (H.) 674
Lazaro (J.) 758
Le Brun (H.) 676
Leduc (A.) 656
Leeb (A. J.) 738
Legler (F.) 673
Leiby (G. M.) 733
Leppelmann (E.) 813
Levitas (J. R.) 707
Liegeois (A.) 755
Lingamfelter (C. S.) 857
Linz (R.) 689
Little (G. N.) 661
Littleton (B. Jean) 660
Livingood (C. S.) 898
Lohrman (Rosemary) 863
Lubowe (I. I.) 852

Mack (J. K.) 768
Mackinnon (J. E.) 714
Maconi (G.) 678
Magara (M.) 827
Mallinckrodt-Haupt (A. S.) 894
Manganiello (L. O. J.) 752
Mankowski (Z.) 802
Mankowski (Z. T.) 660, 735, 828
Mann (T. P.) 683
Máramarosi (G.) 896
Margarot (J.) 851
Mariat (F.) 679
Marques (G. J.) 783
Martin (D. S.) 708
Martinez Báez (M.) 670
Martin-Scott (I.) 841
Mazzara (J. R.) 684
Medarde (I.) 667
Mendes (E.) 698
Menges (R. W.) 788, 789
Miescher (G.) 895
Millar (R.) 688
Miller (J. M.) 750
Monash (S.) 852
Montgomery (D. O.) 778
Moore (E. N.) 695
Morrow (Marie B.) 699
Mosberg (W. H.) 752
Mougeolle (J.) 835
Mozer (J. J.) 829
Mukherjee (B. B.) 710
Muller (B.) 677
Mumma (C. S.) 736
McClellan (J. T.) 789
McGovern (J. J.) 807
McLaren (J. W.) 653
McRoberts (Carrie C.) 742

INDEX OF AUTHORS (*continued*)

Natin (I.) 830
Naudin (G.) 677
Negroni (P.) 740
Nelson (C. T.) 748
Netto (A. S.) 723
Neuhauser (Irene) 833
Newcomer (V. D.) 738
Nickerson (W. J.) 802
Nicod (J.-L.) 690
Niel (K.) 822
Nikolowski (W.) 805
Nowski (S.) 680
Nuñez Andrade (R.) 869
Nyrke (T.) 892

Oláh (D.) 896
O'Neal (R. M.) 777
Oura (M.) 836

Palchanis (W. T.) 779
Pardo (O. A.) 787
Pardo Castello (V.) 787
Parrott (R. H.) 807
Paynter (H. S.) 762
Peabody (J. W.) 700
Pfleger (R.) 897
Piller (M.) 913
Pires (A.) 842
Pond (N. E.) 709
Portella (A.) 760
Potenza (L.) 717
Prieto (C.) 842
Prince (H. E.) 699
Propp (S.) 811
Prunés (L.) 681

Rabut (R.) 860
Radding (J.) 743
Randall (H. M.) 857
Raoul-Duval (P.) 677
Raphael (S. S.) 658
Rasch (S.) 820
Raubitschek (F.) 898
Rayle (J.) 677
Reichenberger (Margott) 665
Reiss (F.) 862, 899
Renda (J.) 721
Resnick (H.) 661
Rey (J. C.) 830
Rice (E. C.) 807
Rivalier (E.) 860, 901
Robinson (Lucille B.) 684
Rodrígue (J. D.) 718
Rodt (E.) 682
Romero (A.) 713, 728
Rooks (R.) 766
Ross (F. K.) 696
Ross (S.) 807
Rosser (T. H. L.) 692
Rossier (P. H.) 806
Rothfield (N. J.) 683
Ruiz (A.) 865
Runyon (Laliah) 720
Rush-Munro (F. M.) 883

Saggese (V.) 831
Saslaw (S.) 790
Saurat (P.) 686
Saxby (Cara) 725
Schaefer (J.) 790
Schapiro (M. M.) 798
Scharyj (M.) 722, 785
Scherr (G. H.) 751, 804
Schlegel (J.) 690
Schmid (D. O.) 657
Schornagel (H. E.) 731
Schroeder (H.) 889
Schulz (D. M.) 770
Schwartz (J.) 774
Schwarz (J.) 658, 731, 771
Scott (E. G.) 747
Seabury (J. H.) 700
Seal (R. M. E.) 692
Secrétan (P.) 829
Senda (T.) 827
Sharvill (I.) 870
Sher (J. J.) 852
Shumard (R. S.) 871
Siegel (M.) 826
Silva (Margarita) 873
Silverman (F. N.) 771
Sisk (J. C.) 859
Sjöström (B.) 691
Skogrand (A.) 832
Smith (D. T.) 655
Smith (D. W.) 857
Smith (G. W.) 750, 752
Solotorovsky (M.) 704
Spino (M. D.) 814
Spoor (H. J.) 902
Squadrini (F.) 687
Stedman (R. L.) 904
Steinbach (O. K.) 743
Steinberg (I. R.) 741
Sternberg (T. H.) 738, 836
Stiefel (E.) 758
Stijns (J.) 753
Straub (M.) 731
Strug (L. H.) 700
Sutton (R. L.) 880
Swartz (J.) 848

Tahler (E. D.) 773
Talbot (J. M.) 870
Tarbet (J. E.) 738, 836
Tenchio (F.) 861
Teusch (W.) 685
Theodorides (E.) 712
Theriault (R. J.) 749
Thjøtta (T.) 820
Thompson (R. C.) 879
Traub (E. F.) 852
Trejos (A.) 713, 727, 728, 739
Tsuroka (M.) 887
Tucker (H. A.) 787
Tucker (R.) 688

Unat (E. K.) 905
Utsumi (I.) 887

Vanbreuseghem (R.) 754, 794, 795, 878, 906
Van Damme (O.) 689
Vandepitte (J.) 755
Vásquez Hoyos (A.) 671
Vermeil (C.) 711
Verwey (W. F.) 703
Vilanova (X.) 907
Villar (T. G.) 783
Vogel (R. A.) 834

Waisman (M.) 882
Walch (J.) 895
Walton (Ida K.) 893
Warner (Mary P.) 858
Watrin (J.) 835
Wegmann (T.) 806
Weinstein (M.) 681
Weisel (W.) 701
West (Margaret K.) 703
Wheeler (C. E.) 857
Whitcomb (Frances C.) 742
Wichelhausen (Ruth) 684
Wiedmann (A.) 817
Wier (R. H.) 733
Winsten (S.) 704
Wolff (L.) 685
Wooldridge (W. E.) 859
Wright (E. T.) 738
Wunderlich (C.) 838

Yang (D.) 902
Yegian (D.) 769
Ygobone (A.) 741
Yokouti (E.) 827
Young (R. M.) 735

Zeledón (R.) 912
Zeman (W.) 746
Zettergren (L.) 691
Zimmer (F.) 903

SUBJECT INDEX

Actinomycosis, 652–3, 656, 658, 661–2, 666–88, 757, 762
Air, fungi in the, 697–9, 765–6
Allergic diseases, 658, 699
Antibiotics, 657, 662, 673–4, 677–80, 682, 691, 694, 719, 747, 792, 803, 805–11, 821, 824–5, 827, 829, 831–2, 870, 886, 894, 898
Antimycotic efficacy of plant extracts, 889
Aspergillosis, 652–3, 660, 689–93, 695–6
Blastocystis, 706
Blastomycosis, 712, 756, 774
Blastomycosis (N. Amer.), 653, 656, 660–2, 700–5, 707–11, 731, 769, 773, 782, 789
Blastomycosis (S. Amer.), 713–19, 769
Chromoblastomycosis, 652, 720–30, 759
Coccidioidomycosis, 651, 653, 658, 661–2, 731–44, 772, 781–2
Cultural studies of pathogenic fungi, 666, 706
Dermatophytes, 651–2, 661, 664–5, 704, 843–5, 848–9, 851, 853–4, 856–61, 864, 866–72, 875–82, 885–7, 889, 891–2, 894–6, 898–900, 902–3, 905–9, 911
Dermatophytes, new species of, 901, 906
Diagnosis of mycoses, 655, 657
Epidermophyton, 652, 704, 850, 854, 859, 871, 874–5, 886, 888–93
Fungicides, 660, 662, 702–4, 738, 743, 747, 791, 804, 826, 829, 833, 836, 852, 855, 858, 861, 869, 871–2, 875, 877–8, 885–8, 891, 897, 899–900, 903–4, 914
Fusarium, 886
General, 654–5, 658, 663–4
Geotrichosis, 652
Glenosporella, 713
Haplosporangiosis, 761–2
Histoplasmosis, 651–3, 658, 708, 731, 743, 762–95
Malassezia furfur, 652, 846–7, 876
Microsporum, 651–2, 704, 851–66, 875–7, 893–4, 902, 905, 908
Moniliasis, 652, 654, 656, 660–2, 704, 757, 762, 799–838, 850, 876, 880, 890, 892, 902, 904
Mucormycosis, 690, 839
Mycetoma, 762, 796–8
Mycoses of animals, 651, 686–8, 695–6, 729–30, 744, 788–9, 837, 908–11
Onychomycosis, 817, 840–1, 865, 876, 884, 899
Penicillium infection, 689
Physiology of fungus pathogens, 679, 769, 801–2, 834, 857
Rhizopus, 797
Rhinosporidiosis, 842
Rodents, 651
Scopulariopsis, 840–1
Sporotrichosis, 652, 658, 664, 762, 769, 913–14
Technique, 657, 659, 665, 801, 843, 848–9, 862–3, 874, 910
Torulosis, 651–3, 656, 660–2, 704, 731, 742, 745–55, 757–60, 762
Trichophyton, 651–2, 662, 844–5, 850–1, 853–4, 857, 859–60, 863, 869–76, 879–85, 887–99, 902, 904–5, 907–11
Trichosporon, 912
Yeast-like fungi, 799–801

PRINTED IN GREAT BRITAIN AT THE UNIVERSITY PRESS, OXFORD
BY CHARLES BATEY, PRINTER TO THE UNIVERSITY

Volume II *Part 5*

REVIEW OF MEDICAL AND VETERINARY MYCOLOGY

Edited by

S. P. WILTSHIRE, M.A., D.Sc.
DIRECTOR, COMMONWEALTH MYCOLOGICAL INSTITUTE

in collaboration with

CHARLES WILCOCKS, M.D., F.R.C.P., D.T.M. & H.
DIRECTOR, BUREAU OF HYGIENE AND TROPICAL DISEASES

J. T. DUNCAN, F.R.C.S., L.R.C.P.(IRE.), D.T.M. & H.
LATELY DIRECTOR OF MEDICAL MYCOLOGY, LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE

and

W. A. POOL, M.R.C.V.S.
DIRECTOR, COMMONWEALTH BUREAU OF ANIMAL HEALTH

THE COMMONWEALTH MYCOLOGICAL INSTITUTE
KEW, SURREY

Price 5s. or $0.75 net post free

1955

NOTICE

THE literature on medical and veterinary mycology is widely scattered and frequently difficult to consult. Certain aspects of the subject are covered by various abstracting journals, but no journal covers them all. For over twenty years the *Review of Applied Mycology* abstracted papers dealing chiefly with the systematic aspect, and the *Tropical Diseases Bulletin* and the *Bulletin of Hygiene* still review selected papers from the medical point of view, but this journal aims at surveying the field completely. It lists all available papers on medical and veterinary mycology and supplies where necessary references to abstracts in other abstracting journals.

The following issues are available: 1943, 1944, 1945, 1946, 1947, 1948 at 7*s.* 6*d.* each, 1949 to 1954 at 10*s.* each, post free. Formerly known as the *Annotated Bibliography of Medical Mycology*, the name was changed to *Review of Medical and Veterinary Mycology* in 1951. The *Review* is now appearing in two parts in each year and the price remains the same at 10*s.* per annum, post free. The subscription price is payable in advance.

Authors are requested to assist in the work by sending reprints of their papers as soon as possible after publication to the Director, Commonwealth Mycological Institute, Kew, Surrey, to whom orders and correspondence respecting the *Review* should be addressed.

A CUMULATIVE INDEX OF VOLUME I OF THE REVIEW OF MEDICAL AND VETERINARY MYCOLOGY

covering the years 1943–1952 *is now available, price* 20*s. net, post free. Orders should be addressed to the Director, Commonwealth Mycological Institute, Kew, Surrey, England*

INDEX OF AUTHORS

Aboulafia (R.) 1097
Adams (W. E.) 1014
Agzamov (R.) 954
Ajello (L.) 1022
Alajouanine (T.) 971
Ales Reinlein (J. M.) 1016
Almeida (F. de) 986
Amino (E.) 1067
Andersen (H. A.) 1015
Andleigh (H. S.) 1077
Angeloff (N.) 934
Arnold (Anna C.) 1004
Aronson (J. D.) 1026
Arroyo (L.) 1076
Artagaveytia-Allende (R. C.) 1076
Auckland (G.) 1044
Austwick (P. K. C.) 1013
Avery (R. J.) 1110
Azulay (R. D.) 987

Babad (J.) 1108
Baker (L. A.) 990
Baker (R. D.) 917
Bakerspigel (A.) 1045, 1047
Barlow (A. J. E.) 1093, 1101
Bass (B. H.) 1050
Battelli (C.) 953
Battigelli (G.) 1036
Benham (Rhoda W.) 1116
Bennett (H. D.) 990
Berenbaum (A. A.) 968
Bereston (E. S.) 1098
Bertrand (C.) 1042
Bieberdorf (F. W.) 1004, 1085
Black (T. C.) 961
Blank (E.) 1069
Blank (F.) 1109, 1110
Blaxland (J. D.) 1074
Bohls (S. W.) 977
Bosch (Zilia E.) 1106
Bottger (C. W.) 919
Boudet (C. C.) 1106
Boyer (P.) 978
Brachmann (F.) 945
Branciforti (S.) 962
Brannin (D. E.) 938
Briz de Negroni (C.) 972
Buncke (Constance M.) 991
Burke (Ruth C.) 922, 998
Burr (A. H.) 963
Bustinza (F.) 924
Buzo Rodriguez (T.) 1038
Byrne (J. L.) 1110

Callaway (J. L.) 917
Campbell (Charlotte C.) 1022
Canon (E.) 1038
Cap (J.) 939
Carlier (Gwendoline I. M.) 1094
Caroline (Leona) 991, 1105
Carvajal (F.) 921
Ceccarelli (A.) 953
Cercos (P.) 1108
Chang (C. C.) 1027
Chapman (E. N.) 1104
Chapman (S. S.) 922
Chardome (J.) 931
Chattaway (F. W.) 1093, 1101
Chinn (H. I.) 1004
Cilli (V.) 953
Clagett (O. T.) 967, 1020
Clifford (D. H.) 951
Coenegrachts (J.) 943
Cohen (R.) 1005
Cole (C. R.) 1034
Colorado Iris (R.) 1007
Combs (L. W.) 1029
Conant (N. F.) 917, 964, 997, 999
Cornejom (B.) 1040
Courtois (C.) 1078
Couteau (Monique) 1048
Cowper (H. H.) 1002
Craig (G. E.) 1109
Cross (R. F.) 952
Cummings (Jean) 923

Daeschner (C. W.) 1100
Daglio (C. A.) 995
De Loof (C.) 1078
Delville (J. P.) 978
Desmond (M. M.) 1056
Dey (N. C.) 1095
Dietrichson (E.) 936
Di Paola (G.) 1051
Doupagne (P.) 1091
Drouhet (E.) 915, 971, 983, 1048
Duarte (E.) 973

Emdin (W.) 1052
Emmett (J.) 1002
Emmons (C. W.) 1041
Enerson (D. M.) 1014
Evans (R. E.) 1031
Eynon (H. K.) 974

Fahlberg (W. J.) 1056, 1100
Fetter (B. F.) 999
Ffrench (G.) 1043
Figueiredo (M. de A.) 1039
Finlayson (M. H.) 1052
Fischer (G. W.) 1111
Fischer (J. B.) 916
Fois (S.) 928
Foley (F. E.) 929
Forbes (G. B.) 1027
Forni (P. U.) 1062
Fox (J. R.) 929
Franks (A. G.) 1063
Franz (A.) 962
Franzen (J.) 1019
Friedhoff (Frances W.) 1088
Friedman (Lorraine) 964
Fuentes (C. A.) 1097, 1106
Furtado (T. A.) 984

Gale (G. R.) 965
Galindo (D. L.) 977
Gardenchi (G.) 1113
Gass (R. S.) 1017
Gauvreau (L.) 1084
Georg (Lucille K.) 1115
Gephardt (M. C.) 1006
Geppert (L. J.) 1075
Ginesta (J. R.) 985
Golden (M. J.) 933
González Ochoa (A.) 926, 942, 1007, 1008
Grandbois (J.) 1084
Grayston (J. T.) 1029
Grimmer (H.) 1112
Grundberg (E.) 981
Guex-Holzer (S.) 976
Guimil (A.) 985
Gurri (J.) 1038

Haberman (R. T.) 1041
Hadida (E.) 988
Hage (J. T.) 1009
Hajos (K.) 957
Halde (Carlyn) 959, 1037
Hanlon (T. J.) 1006
Heller (A.) 944
Hengel (R.) 946
Hernández (Elena) 1007
Hodgson (C. H.) 1020
Hofer (J.) 982
Hood (S. I.) 1040
Houdart (R.) 971
Huang (W.-Y.) 922
Huffines (T. R.) 963
Hughes (F. A.) 929
Humphreys (E. H.) 1014

Iaricci (V.) 994
Ivanoff (T.) 934

Jackson (D.) 1024
Janke (D.) 1119
Janke (R. G.) 1064
Jean (R.) 1018
Jonsen (J.) 1046

Kadas (L.) 1053
Keeney (E. L.) 958
Keil (C.) 943
Kier (J. H.) 1022
Kimmig (J.) 1086
Kirby (W. M. M.) 1028
Kliewe (H.) 982
Kligman (A. M.) 1099
Knight (I. C. S.) 941
Kunkel (W. M.) 967
Kutscher (A. H.) 1065

Labeguerie (M.) 1061
Lacaz (C. da S.) 986
Lange (J.) 947
Lee (J. R.) 1028
Leonard (Louise) 1105
Levan (N.) 989
Levan (N. E.) 1000
Lewis (S.) 1065
Liberman (M. J.) 920
Linden (I. H.) 980
Linke (A.) 946
Long (L. M.) 1066
Loosli (C. G.) 1029
Lowe (E. P.) 999
Lowry (C. C.) 929
Lubarsky (R.) 1003
Lucasse (C.) 931
Lukeman (J. M.) 1075

Macfarlane (R. G.) 1050
Mackinnon (J. E.) 1076
Maddy (K. T.) 1010, 1011
Magara (M.) 1067
Magis (P.) 931
Mairlot (F.) 978
Mankowski (Z. T.) 932
Mariat (F.) 915, 949
Marill (F. G.) 988
Markson (L. M.) 1074
Marples (Mary J.) 1104
Marselou (U.) 1068
Martin (D. S.) 917
Martin (F. P.) 1075
Martin-Scott (I.) 1083
Marx (F. J.) 968
Matthiesen (D. E.) 1030
Mazurek (C.) 950
McCoy (Elizabeth) 925
McDiarmid (A.) 1013
McDonald (J. R.) 967, 1020
McLetchie (N. G. B.) 993
Milder (J. W.) 990
Millberger (H.) 1069
Minton (R.) 1012
Mitchell (R. B.) 1004
Moise (R.) 1079
Monod (O.) 955
Moore (M.) 1080
Moral García (J. L.) 1082
Morrison (R. H.) 952
Moulton (J. E.) 1009
Muzzetto (M.) 1096

Nagao (W. T.) 952
Negro (G. de L.) 1039
Negroni (P.) 972, 995, 996, 1081
Newcomer (V. D.) 1117
Nicora (G.) 1070
Nielsen (G. E.) 1031
Nuckolls (J.) 940

O'Connor (R.) 1005
Onisi (M.) 940
Osimani (J. J.) 1038
Oster (K. A.) 933

Panaiotoff (I.) 934
Paraf (A.) 1042
Park (D. R.) 1056
Parrella (M.) 1032
Peabody (J. W.) 920
Pedersen (R.) 927
Peeples (W. J.) 1033
Pesle (G. D.) 955, 1061
Peterson (W. H.) 925
Peto (M.) 957
Phillips (T.) 1050
Pinsky (A.) 1108
Piro (J. D.) 1065
Plane (J.) 1055
Platt (W. R.) 974
Plummer (P. J. G.) 1110
Plunkett (O. A.) 984, 1003
Pluss (J. M.) 1053
Pogany (I.) 957
Polemann (G.) 1089
Polk (J. W.) 929
Popoff (L.) 934
Portella (A.) 975
Porto (J. A.) 1090
Preston (W. J.) 1044
Prior (J. A.) 1034
Procknow (J. J.) 1029
Puckett (T. K.) 992

Ranson (R. F.) 1075
Rasch (S.) 1046
Rees (R. B.) 1054
Reeves (R. J.) 927
Reid (N.) 993
Reiss (F.) 991, 1105
Reiss (H. J.) 956
Reyes (A. C.) 1037
Richards (M.) 960
Rieth (H.) 1086
Rios Mozo (M.) 1016
Rioux (J.-A.) 1055
Ritter (Cassandra) 1021
Ritter (F.) 1036
Robbins (E. S.) 969
Rosenthal (M. W.) 1100
Rosenthal (S. A.) 1088
Rosiles (H.) 1008
Ross (J. A.) 941
Rossi (R.) 1060
Rowley (D. A.) 1041
Ruiz Moreno (G.) 1049

Sanchez (H. G.) 985
Santoro (A.) 1038
Saslaw (S.) 1034
Scharfenberger (R.) 1089
Scherr (G. H.) 1073
Schnitzer (R. J.) 981
Schurmann (R.) 1059
Seabury (J. H.) 920
Seeliger (H.) 930, 947
Segretan (G.) 1068
Seguin (Lucille) 1065
Senda (T.) 1067
Shanbrom (E.) 1012
Shaptseva (Mme P. I.) 954
Sharon (N.) 1108
Shenoi (V.) 1043
Silva (M.) 1116
Simons (R. D. G. Ph.) 918
Simpson (D. M.) 993
Slaughter (H. W.) 1092
Slawson (Marie S.) 1071
Smith (D. T.) 917
Smith (R. M.) 925
Snyder (M. L.) 1071
Soemiatno 970
Soucheray (P. H.) 1057
Soysal (S. S.) 979
Spence (M. J.) 1033
Steffen (C. G.) 980
Steigleder (G. K.) 1087
Steinberg (I. R.) 994
Sternberg (T. H.) 1072, 1117
Strauss (J. S.) 1099
Streit (R.) 988
Sutliff (W. D.) 1022
Swartz (J. H.) 922
Sweeney (P. J.) 1058
Szendi (B.) 948

Tanzi (F.) 1029
Tahsinoglu (M.) 979
Tarbet (J. E.) 1072

INDEX OF AUTHORS (*continued*)

Taschdjian (Claire L.) 935, 1063
Taylor (Helen C.) 1026
Thjøtta (I.) 1046
Thompson (C. C.) 1101
Thordal-Christensen (A.) 951
Thorpe (Grace A.) 1063
Thys (A.) 1078
Tilling (W.) 1019
Tomscik (J.) 976
Tritsmans (E.) 1118
Troutman (H. D.) 1066
Turner (O. A.) 937
Turner-Graff (R[uhama]) 1108

Unat (E. K.) 979
Ungerman (A. H.) 1102
Ungerman (M. S.) 1102

Vanbreuseghem (R.) 931, 1078, 1091, 1118
Van der Meiren (L.) 1118
Vasquez Ferro (E.) 1051
Verdier (P.) 1055
Verge (J.) 1042
Veronesi (R.) 1039
Vidal (R. J.) 1097
Vivancos (G.) 1114
Vivian (D. N.) 1020
Vogel (R. A.) 997, 999
Vucetich (M.) 1081

Wahi (P. N.) 1025
Weed (L. A.) 967, 1020
Wesener (G.) 1103
Whitaker (H. W.) 929
Whittle (C. H.) 1107
Wilson (H. M.) 961
Wilson (J. W.) 984
Winn (W. A.) 1001
Wright (E. T.) 1117

Ygobone (A.) 994
Yokouti (E.) 1067
Young (R. V.) 1012

Zapater (R. C.) 983
Zegarelli (E. V.) 1065
Zeidberg (L. D.) 1017, 1023
Zmajevich (G.) 1036

SUBJECT INDEX

Achorion, 1089, 1095
Actinomycosis, 918, 927, 935, 937–53, 1007
Air, fungi in the, 959–60
Allergic diseases, 957–8
Allescheria boydii, 1078
Antibiotics, 921–5, 939, 941–5, 948, 961, 971, 985, 1049–50, 1054–5, 1059–61, 1063–70, 1072–3, 1077, 1080, 1108, 1113, 1133
Aspergillosis, 918, 954–6, 1112
Blastomycosis (N. Amer.), 918, 927–9, 961–9
Blastomycosis (S. Amer.), 918, 964, 983–6, 1076
Chromoblastomycosis, 918, 987–9
Cladosporium trichoides, 931
Coccidioidomycosis, 918, 928–9, 990–1101
Dermatophytes, 918, 934–5, 1053, 1084–1130
Epidermophyton, 1094, 1108, 1111–12, 1119
Fungicides, 933–5, 961, 963, 965–7, 980–1, 984–5, 1004–8, 1050, 1058, 1071–2, 1078, 1083, 1092, 1100
General, 916–18, 926, 930
Geotrichosis, 1012, 1084
Glenosporella, 918
Haplosporangiosis, 1013
Histoplasmosis, 918, 928–9, 972, 1014–42, 1076
Madura foot, see Mycetoma
Malassezia furfur, 918, 919, 1090–2
Microsporum, 1089, 1092–5, 1097–8, 1100–7
Moniliasis, 918, 928, 930, 934, 1043–74, 1092, 1108, 1112
Mucormycosis, 918, 1075
Mycetoma, 942, 1007, 1077–81
Mycoses of animals, 915, 950–3, 969, 1009–11, 1013, 1034, 1040–2, 1094, 1105
Onychomycoses, 918, 1083, 1112
Physiology of fungus pathogens, 932, 1021, 1048, 1098
Rhinosporidiosis, 918, 1082
Scopulariopsis, 1112
Sporotrichosis, 915, 918, 935, 1076
Technique, 919–20, 1020, 1045, 1047, 1085
Torulosis, 918, 927, 935, 970–81, 1014
Trichophyton, 1089, 1092–5, 1100, 1106, 1108–19
Yeast-like fungi, 936, 982, 1064, 1071

PRINTED IN GREAT BRITAIN AT THE UNIVERSITY PRESS, OXFORD
BY CHARLES BATEY, PRINTER TO THE UNIVERSITY

Volume II *Part 6*

REVIEW OF MEDICAL AND VETERINARY MYCOLOGY

Edited by

S. P. WILTSHIRE, M.A., D.Sc.
DIRECTOR, COMMONWEALTH MYCOLOGICAL INSTITUTE

in collaboration with

CHARLES WILCOCKS, M.D., F.R.C.P., D.T.M. & H.
DIRECTOR, BUREAU OF HYGIENE AND TROPICAL DISEASES

J. T. DUNCAN, F.R.C.S., L.R.C.P.(IRE.), D.T.M. & H.
LATELY DIRECTOR OF MEDICAL MYCOLOGY, LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE

and

W. A. POOL, M.R.C.V.S.
LATELY DIRECTOR, COMMONWEALTH BUREAU OF ANIMAL HEALTH

THE COMMONWEALTH MYCOLOGICAL INSTITUTE
KEW, SURREY

Price 5s. or $0.75 net post free

1955

NOTICE

THE literature on medical and veterinary mycology is widely scattered and frequently difficult to consult. Certain aspects of the subject are covered by various abstracting journals, but no journal covers them all. For over twenty years the *Review of Applied Mycology* abstracted papers dealing chiefly with the systematic aspect, and the *Tropical Diseases Bulletin* and the *Bulletin of Hygiene* still review selected papers from the medical point of view, but this journal aims at surveying the field completely. It lists all available papers on medical and veterinary mycology and supplies where necessary references to abstracts in other abstracting journals.

The following issues are available: 1943, 1944, 1945, 1946, 1947, 1948 at 7*s.* 6*d.* each, 1949 to 1955 at 10*s.* each, post free. Formerly known as the *Annotated Bibliography of Medical Mycology*, the name was changed to *Review of Medical and Veterinary Mycology* in 1951. The *Review* is now appearing in two parts in each year and the price remains the same at 10*s.* per annum, post free. The subscription price is payable in advance.

Authors are requested to assist in the work by sending reprints of their papers as soon as possible after publication to the Director, Commonwealth Mycological Institute, Kew, Surrey, to whom orders and correspondence respecting the *Review* should be addressed.

A CUMULATIVE INDEX OF VOLUME I OF THE REVIEW OF MEDICAL AND VETERINARY MYCOLOGY

covering the years 1943–1952 *is now available, price* 20*s. net, post free. Orders should be addressed to the Director, Commonwealth Mycological Institute, Kew, Surrey, England*

INDEX OF AUTHORS

Acree (P. W.) 1203
Agostini (A.) 1380
Aguilera (Carolina T.) 1329
Ajello (L.) 1149, 1253, 1259, 1293
Alexander (J.T.) 1260
Alkiewicz (J.) 1381
Amromin (G.) 1246
Anders (W.) 1374
Andreu Urra (J.) 1318
Anguli (V. C.) 1228
Anscombe (A. R.) 1185
Ansel (M.) 1351
Antos (R. J.) 1344
Aoki (Y.) 1396
Aprigliano (F.) 1230
Armstrong (B. H.) 1394
Audebaud (G.) 1279
Aussannaire (M.) 1313
Austwick (P. K. C.) 1191

Baird (J. W.) 1375
Baker (L. A.) 1212
Bakir (F.) 1260
Ball (J. D.) 1278
Ballowitz (Leonore) 1345
Baptista (L.) 1131
Barker (C. S.) 1174
Barnum (D.A.) 1229
Bartels (H. A.) 1302, 1331, 1353
Batte (E. G.) 1128
Bazex (A.) 1296
Beare (M.) 1376
Beck (A.) 1227
Bell (J. A.) 1294
Bell (M.) 1136
Belliboni (N.) 1131
Benham (Rhoda W.) 1215, 1216
Bereston (E. S.) 1392, 1393
Berglund (E. M.) 1165
Bergman (S.) 1365
Berthelon (M.) 1252
Bertoye (A.) 1330
Bertrand (L.) 1287
Bertrand (M.A.) 1334
Beurey (J.) 1312
Birsner (J. W.) 1245
Birt (A. R.) 1377
Blank (F.) 1277
Block (W. D.) 1160, 1201, 1208
Blumenfeld (C. M.) 1246
Bocobo (F. C.) 1160, 1200, 1201, 1208
Bogsch (A.) 1214
Bond (J. O.) 1263
Bory (R.) 1130
Bose (S. K.) 1370
Brandt (U.) 1303
Bratlund (Harriet) 1332
Brenneman (F. S.) 1286
Brooksbank (N. H.) 1191
Brusori (G.) 1321
Brutsaert (P.) 1284
Buchbinder (M.) 1302
Bullock (M.) 1138
Burger (C. H.) 1249
Burton (C. T.) 1276
Bushmanova (Mme L. G.) 1186

Campo (C.) 1334
Canto Borreguero (G.) 1145
Caramanian (M.) 1313
Cardona (A.) 1243
Carll (W. T.) 1192, 1193, 1194
Carron (R.) 1333
Castellani (A.) 1378
Castro (R. M.) 1131
Ceccaldi (J.) 1279
Cellerier 1177
Cernès (M.) 1173
Chaptal (J.) 1334
Charr (R.) 1275
Chavanis (P.) 1333
Christie (R.) 1308
Claessens (H.) 1285
Cohen (R.) 1247
Collins (A. P.) 1364
Collins (Mary E.) 1309
Colsky (J.) 1207
Cory (J. C.) 1292
Costello (M. J.) 1127
Coudert (J.) 1146, 1366, 1379
Couteau (Mlle M.) 1224
Creitz (J.) 1361
Cremer (G.) 1123
Crow (K. D.) 1236
Curry (J.) 1382
Curtis (A. C.) 1160, 1200, 1201, 1208

Daniels (G.) 1382
Debré (R.) 1352
De Buen (S.) 1222
Decamp (P.T.) 1203
De Campos (E. P.) 1234
De Carvalho (A.) 1255
De Gavaller (B.) 1327
De Graciansky (P.) 1188
De Jong (Miss A.) 1156
Del Negro (G.) 1234
De Maria (A.) 1358
Denis (J. P.) 1173
Dennis (J. L.) 1238
Depieds (R.) 1166
Dietrichson (Edel) 1295
Dilorenzo (J. C.) 1341
Dolfen (W.) 1388
Drouhet (E.) 1343, 1352
Drouhet (Victoria) 1288, 1352
Dubois (A.) 1283, 1284
Duggan (M.) 1204
Duperrat (B.) 1168
Dupont (C. A. B.) 1231
Duroux 1335
Dutta (D.) 1370
Dwyer (H. L.) 1385
Dyson (J. E.) 1264

Earle (A. M.) 1286
Eger (W.) 1195
Ehrmann (G.) 1373
Eiken (M.) 1172
Eisen (D.) 1217
Elliot (G. B.) 1204
Emmons (C. W.) 1141 1194, 1250
Evans (E. E.) 1218, 1264, 1268
Evans (P. R.) 1278
Evans (W. E. D.) 1305
Everall (J.) 1383

Falkmer (S.) 1336
Fazio (M.) 1304
Federspiel (C. F.) 1262
Fellman (H.) 1135
Ferreira (A. Dos S.) 1282
Figge (F. H.) 1392, 1393
Fischer (G. W.) 1338
Fischer (J. B.) 1217, 1229
Fitzgerald (R. J.) 1161
Floch (H.) 1320
Florian (E.) 1167
Foerster (Helenor C.) 1222
Földvári (F.) 1167
Forgacs (J.) 1192, 1193, 1194
Forni (P. V.) 1349, 1350
Forsee (J. H.) 1242
Foxworthy (D. T.) 1212
Frank (E. F.) 1136
Frank (E. R.) 1189
Franks (A. G.) 1386
Fraser (W. N. C.) 1384
Frisk (Å.) 1290
Furcolow (M. L.) 1261, 1262, 1270, 1271

Gasner (W. G.) 1127
Gaumond (E.) 1205
Gauthier (C.) 1351
Georg (Lucille K.) 1149
Gonçalves (A. P.) 1132
Gordon (L. E.) 1248
Götz (H.) 1328, 1369
Goudot (B.) 1168
Granotier 1335
Grayston (J. T.) 1261
Gregerson (A.) 1122
Grottenmüller (K.) 1389
Grumbach (R.) 1352
Grupper (C.) 1188
Guerol (H. E.) 1231
Guin (J. J.) 1287
Guyotjeannin (C.) 1130
Guzman (Margarita G.) 1329

Habermann (R. T.) 1251, 1271
Habib (R.) 1352
Hackett (A. H.) 1384
Hahn (W.) 1317
Hamilton (O. A.) 1387
Hansen (A. E.) 1238
Harrell (E. R.) 1160, 1208
Harris (H. W.) 1361
Harter (J. S.) 1324
Haukohl (R. S.) 1359
Hauser (W.) 1355
Haven (F.) 1285
Hazen (Elizabeth L.) 1140
Hedenius (P). 1290
Heid (G. J.) 1273
Hennigar (G. R.) 1272
Henriksen (E.) 1307
Henry (R. C.) 1269
Herring (A. S.) 1193, 1194
Hertz (J.) 1171
Hewell (Barbara A.) 1261
Hickey (R. C.) 1165
Hirschmann (V. R.) 1240
Hoffer (O.) 1337
Hoffman (H. S.) 1184
Hofmeyr (J.) 1185
Holding (B. F.) 1269
Holsinger (R. E.) 1394
Holten (C.) 1332
Hopkins (J. G.) 1387
Hoppeler (A.) 1352
Hosp (L.) 1219
Howell (A.) 1161
Hunter (R. A.) 1179
Hutchings (M. W.) 1227
Hyde (L.) 1241

Ibach (Martha J.) 1270
Inman (P.) 1124

Jamar (J.) 1225
Jammet (Mlle M. L.) 1313
Janiak (E.) 1381
Janke (D.) 1151
Janssens (P. G.) 1283, 1284
Jarniou 1335
Jean (R.) 1334
Johnson (S. A. M.) 1329
Jones (R. W.) 1394
Jones (T. C.) 1159
Jordan (F. T. W) 1196
Josserand (A.) 1330
Jung (H. D.) 1371

Kaden (R.) 1397
Kaizaki (I.) 1310
Karcher (K. H.) 1323
Kay (R. G.) 1395
Keeney (E. L.) 1139
Kerbrat 1177
Kerbrat (G.) 1190
Kiesselach (M. R.) 1387
Kimball (Alice) 1189
Klapheke (Mary A.) 1324
Klärner (C.) 1325
Kolb (E.) 1158
Komuro (S.) 1396
Königsbauer (H.) 1148
Konrad (J.) 1322
Koons (R. C.) 1133
Kostić (P.) 1306
Kraus (R.) 1178
Kretzschmar (C.) 1356
Kuhrt (P.) 1195
Kuroda (T.) 1397, 1398
Kurrein (F.) 1357

Lamb (J. H.) 1133
Lamy (M.) 1313
Larsh (H. W.) 1262, 1270
Lavalle (P.) 1163
Lazaro (J.) 1318
Lechevalier (H.) 1147
Leduc (A.) 1206
Lemaire 1335
Levan (N. E.) 1249
Lewis (G. M.) 1121
Line (F. G.) 1220
Linganfelter (C. S.) 1387
Liu (C. T.) 1221
Lohrman (Rosemary) 1394
Lombard (C.) 1252
Lövei (E.) 1214
Lurie (H. I.) 1154
Luteraan (P.-J.) 1130
Lux (J. J.) 1265
Lyons (R. E.) 1363

Mahlandt (B. G.) 1194
Majewski (C.) 1381
Makey (A. R.) 1227
Mankiewicz (Edith) 1277
Mankowski (Z. T.) 1342
Manwell (R.D.) 1199
Máramarosi (G.) 1326
Marcey (E. A.) 1294
Mariat (F.) 1163
Martins (S. M.) 1307
Masdea (E.) 1319

INDEX OF AUTHORS (*continued*)

Mattern (C. F. T.) 1294
Mazumdar (S. K.) 1370
McClung (N. M.) 1164
McCoy (Elizabeth) 1144
McGivney (J.) 1339
McKey (R. W.) 1239
McLean (Muriel M.) 1311
McVay (L. V.) 1211
Melo e Albuquerque (F. J.) 1234
Menart (J.) 1348
Menges (R. W.) 1251, 1271, 1291
Merveille (P.) 1279
Metzger (W. I.) 1341
Meyer-Rohn (J.) 1315
Michael (M.) 1280
Miller (W. S.) 1128
Minder (W.) 1198
Minetto (E.) 1304
Monod (O.) 1155
Monteiro (A.) 1230
Morczek (A.) 1360
Morquer (R.) 1252, 1296
Morton (Mary M.) 1308
Mougeolle (J.) 1312
Mozziconacci (P.) 1352
Mücke (D.) 1360
Mullins (J. F.) 1125
Murat (M.) 1146, 1366
Murphy (L. C.) 1181
Muzzio (J. C.) 1231
Myhr (L. B.) 1209

Nasemann (T.) 1328
Negroni (P.) 1244
Nickerson (W. J.) 1297
Nishio (Jane) 1292
Nolan (J. O.) 1175

O'Brien (J. P.) 1298
Ochsner (A.) 1203
Odashima (S.) 1396
Oddone (I.) 1304
Oláh (D.) 1326
Oliveira (N. H.) 1232
Oliver (R. K.) 1269
Olson (B. J.) 1294
Ostfeld (A.M.) 1210
Ougier 1335

Paltauf (R.) 1233
Papageorge (Calomira) 1149
Payne (N. S.) 1272
Penton (S.) 1269
Pereiro Miguens (M.) 1368
Perkins (R. B.) 1242
Pesle (G.) 1348
Pesle (G.-D.) 1155
Pine (L.) 1274
Plunkett (O. A.) 1122
Pollak (L.) 1256
Poppe (J. K.) 1223
Pospisil (L.) 1299
Powell (E.) 1294
Presse (M.) 1155
Prunieras (M.) 1379
Puget (E.) 1296
Putelat (R.) 1330

Ramamurthi (B.) 1228
Ramos e Silva (J.) 1132
Rašović (L.) 1183
Rawson (A. J.) 1226
Ré (L.) 1282
Reed (F. C.) 1140
Reeves (R. J.) 1257
Repetto y Rey (B.) 1157
Riddell (R. W.) 1236
Rieth (H.) 1340, 1367
Rioux (G.) 1334
Rioux (J.) 1287
Robinson (H. M.) 1392, 1393
Rolle (M.) 1158
Roth (F. J.) 1347
Roth (M.) 1362
Rowley (D. A.) 1294
Rubin (J. H.) 1277
Runyon (L. C.) 1293

Sadek (H. M.) 1235
Sadoff (H. B.) 1359
Saito (Margaret T.) 1248
Salvin (S. B.) 1292
Saunders (W.) 1129
Scarinci (C.) 1180
Schäfer (H.) 1197, 1345
Schmidt (B.) 1289
Schmidt (H. W.) 1126
Schneider (G.) 1162
Schönfeld (J. H.) 1340
Schwartz (B.) 1266
Schwarz (J.) 1261
Sclafer (J.) 1288, 1314
Seeliger (H.) 1317
Segretain (G.) 1224
Seligman (S. A.) 1187
Shackelford (P. O.) 1133
Shapiro (I.) 1217
Shapiro (J. L.) 1265
Shull (H. J.) 1267
Sieburth (J. McN.) 1317
Sievers (M. L.) 1134
Simon (R.) 1346
Smith (C. E.) 1248
Smith (D. L.) 1229
Smith (Flora) 1182
Snapper (I.) 1211
Snoke (P. O.) 1273
Sorensen (L. J.) 1218, 1268
Spitz (L. J.) 1266
Spoor (H. J.) 1136
Sprofkin (B. E.) 1265
Steen (L. H.) 1212
Stevens (H.) 1169
Stiefel (E.) 1318
Stott (H.) 1281
Straube (W.) 1317
Stubbart (F. J.) 1201
Sutton (L. E.) 1272

Taschdjian (Claire L.) 1120, 1150, 1386
Teramo (M.) 1358
Thjøtta (T.) 1300
Thompson (W. F.) 1213
Tobler (W.) 1198
Tompkins (Marianne) 1248
Torheim (B. J.) 1300
Torre (D.) 1121
Townsend (T. E.) 1239
Trejos (A.) 1237
Tropé (J.) 1173
Tuck (I. M.) 1227
Tucker (E. W.) 1354
Tuza (K.) 1326
Twiehaus (M. J.) 1189
Van Baarle (F.) 1225
Vanbreuseghem (R.) 1137, 1142, 1143, 1152, 1153, 1284, 1391
Van Goidsenhoven (F.) 1225
Van Uden (N.) 1282
Vasconcelos (E.) 1235
Vasiljević (D.) 1183
Velázquez (T.) 1243
Veltman (G.) 1390
Vergez (J.) 1346
Viallier (J.) 1330
Vidal (J.) 1287
Vieu (J. F.) 1301
Vogel (R. A.) 1280, 1309

Walker (Jacqueline) 1376
Wallenborn (P. A.) 1276
Walls (K. W.) 1218
Watrin (J.) 1312
Whitehill (M. R.) 1226
Whitlock (E.) 1263
Wiedmann (A.) 1373
Wiese (G. A.) 1364
Wilde (H.) 1372
Willcox (D. R.) 1179
Wilson (J. W.) 1122, 1307
Wilt (J. C.) 1204, 1377
Winkler (A.) 1322
Winner (H. I.) 1305
Wising (P. J.) 1336
Witchell (I. S.) 1316
Woolf (A. L.) 1179
Wright (L. T.) 1341

Yeaman (A.) 1307
Young (C. J.) 1133

Zapater (R. C.) 1202, 1231
Zeidberg (L. D.) 1258, 1259
Zimmerman (L. E.) 1222, 1254
Zitka (E.) 1170, 1176

SUBJECT INDEX

Actinomycosis, 1148, 1161–7, 1169–90, 1378
Air, fungi in the, 1200–2
Allescheria boydii, 1253, 1360–1
Antibiotics, 1144, 1146–7, 1149, 1165, 1171, 1173, 1175–6, 1180, 1183, 1186–7, 1198, 1301, 1323, 1325, 1329–33, 1335–9, 1345, 1347, 1354, 1365–6, 1370
Aspergillosis, 1190–9, 1379

Blastomycosis (N. Amer.), 1203–14
Blastomycosis (S. Amer.), 1230–5

Chromoblastomycosis, 1236–7
Coccidioidomycosis, 1142–3, 1190, 1238–50, 1285
Cultural studies of pathogenic fungi, 1215

Dermatophyes, 1t20–30, 1146, 1150–1, 1160, 1253, 1340, 1364–90, 1392–8
Detection of mycoses, 1308–10

Epidermophyton, 1123, 1138, 1365, 1368, 1373

Fungicides, 1120, 1122, 1124, 1126, 1128, 1131, 1147, 1160, 1168–9, 1177, 1180, 1188, 1203, 1205, 1207–11, 1213, 1220, 1226, 1230–2, 1234–5, 1238, 1247–8, 1273, 1276, 1302, 1307, 1311, 1316, 1329, 1340–4, 1348, 1352, 1362, 1364, 1371, 1383, 1387–90

General, 1138–45, 1152–7, 1159
Geotrichosis, 1252, 1355

Haplosporangiosis, 1250–1
Histoplasmosis, 1142–3, 1190, 1253–94

Malassezia furfur, 1138, 1371, 1391
Microsporum, 1120, 1125, 1128, 1138, 1363–5, 1368, 1371, 1374–7, 1379, 1382–7, 1389, 1392–6
Moniliasis, 1190, 1197, 1297–9, 1301–7, 1309–29, 1331–55, 1373, 1378
Mucormycosis, 1158, 1357
Mycetoma, 1358–9
Mycoses of animals, 1128–9, 1159, 1195–6, 1199, 1229, 1249–50, 1271, 1284, 1292, 1294, 1296, 1305, 1347, 1349, 1354, 1356

Onychomycoses, 1311, 1362–3

Physiology of fungus pathogens, 1141, 1158, 1163–4
Pityrosporum, 1137

Saccharomycosis, 1321
Sporotrichosis, 1131–4, 1136, 1379

Technique, 1150, 1218
Torulosis, 1148, 1160, 1215–29
Trichophyton, 1120, 1122–9, 1364–5, 1368, 1370–1, 1373, 1375, 1377–9, 1381, 1383, 1385, 1394, 1397–8

Yeast-like fungi, 1295, 1300

PRINTED IN GREAT BRITAIN AT THE UNIVERSITY PRESS, OXFORD
BY CHARLES BATEY, PRINTER TO THE UNIVERSITY

Volume II *Part 7*

REVIEW OF MEDICAL AND VETERINARY MYCOLOGY

Edited by

S. P. WILTSHIRE, M.A., D.Sc.
DIRECTOR, COMMONWEALTH MYCOLOGICAL INSTITUTE

in collaboration with

CHARLES WILCOCKS, M.D., F.R.C.P., D.T.M. & H.
DIRECTOR, BUREAU OF HYGIENE AND TROPICAL DISEASES

J. T. DUNCAN, F.R.C.S., L.R.C.P.(IRE.), D.T.M. & H.
LATELY DIRECTOR OF MEDICAL MYCOLOGY, LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE

and

W. A. POOL, M.R.C.V.S.
LATELY DIRECTOR, COMMONWEALTH BUREAU OF ANIMAL HEALTH

THE COMMONWEALTH MYCOLOGICAL INSTITUTE
KEW, SURREY

Price 5s. or $0.75 net post free

1956

NOTICE

THE literature on medical and veterinary mycology is widely scattered and frequently difficult to consult. Certain aspects of the subject are covered by various abstracting journals, but no journal covers them all. For over twenty years the *Review of Applied Mycology* abstracted papers dealing chiefly with the systematic aspect, and the *Tropical Diseases Bulletin* and the *Bulletin of Hygiene* still review selected papers from the medical point of view, but this journal aims at surveying the field completely. It lists all available papers on medical and veterinary mycology and supplies where necessary references to abstracts in other abstracting journals.

The following issues are available: 1943, 1944, 1945, 1946, 1947, 1948 at 7*s.* 6*d.* each, 1949 to 1955 at 10*s.* each, post free. Formerly known as the *Annotated Bibliography of Medical Mycology*, the name was changed to *Review of Medical and Veterinary Mycology* in 1951. The *Review* is now appearing in two parts in each year and the price remains the same at 10*s.* per annum, post free. The subscription price is payable in advance.

Authors are requested to assist in the work by sending reprints of their papers as soon as possible after publication to the Director, Commonwealth Mycological Institute, Kew, Surrey, to whom orders and correspondence respecting the *Review* should be addressed.

A CUMULATIVE INDEX OF VOLUME I OF THE REVIEW OF MEDICAL AND VETERINARY MYCOLOGY

covering the years 1943–1952 *is now available, price* 20*s. net, post free. Orders should be addressed to the Director, Commonwealth Mycological Institute, Kew, Surrey, England*

INDEX OF AUTHORS

Acrich (M.) 1555
Adriano (S. M.) 1565, 1624
Ales Reinlein (J. M.) 1517
Alkiewicz (J.) 1649, 1680, 1681
Alperovitch (A.) 1637
Alslev (J.) 1589
Amatuzio (D. S.) 1488
Ambrosioni (P.) 1592
Ammann (A.) 1430
Andleigh (H. S.) 1442
André (H.) 1551
Andriasyan (G. K.) 1666
Antunes (Maria M.) 1662, 1664
Armstrong (W. B.) 1505
Atsuji (C.) 1431
Ayres (W. W.) 1488
Azulay (R. D.) 1516

Backus (E. J.) 1460
Baer (R. L.) 1667
Baker (L. A.) 1527
Baker (R. D.) 1627
Bando (Y.) 1431
Barlow (A. J. E.) 1652
Barron (C. N.) 1497
Barter (A. P.) 1443
Bauer (H.) 1628
Baum (G. L.) 1518
Beamer (P. R.) 1633
Beckmann (A. J.) 1617
Beerens (H.) 1446, 1447
Bell (E. J.) 1547
Berendes (J.) 1608
Bereston (E. S.) 1424
Bernaerts (J. P.) 1475
Bethenod (M.) 1499
Beuthe (D.) 1582
Billings (F. T.) 1543
Binford (C. H.) 1544
Birsner (J. W.) 1520
Blake (W. P.) 1469
Blanc (P. E.) 1499
Blank (F.) 1632, 1650
Bobbitt (O. B.) 1444
Böhm (F.) 1480
Bonetti Dupont (C. A.) 1511
Boone (J. E.) 1609
Bowers (R.) 1607
Brass (K.) 1491
Briggs (Mary E.) 1472
Brion (S.) 1448
Brock (T. D.) 1430
Brodey (R. S.) 1470
Broughton (R. H.) 1669
Browne (S. G.) 1575
Brygoo (E. R.) 1588

Campos (C. L.) 1513
Campos (J. de O.) 1498
Caplan (H.) 1574
Carlier (G.) 1446, 1447
Caroline (Leona) 1673
Carter (H. E.) 1430
Chattaway (F. W.) 1652
Cheu (S.) 1522
Clapp (Mary P.) 1445
Cogswell (H. D.) 1519
Cole (E. J.) 1470
Conant (N. F.) 1483
Conde Muñoz (J. M.) 1659
Conejo Mir (J.) 1659
Cotton (B. H.) 1520
Couch (O. A.) 1543
Coudert (J.) 1499
Courdurier (J.) 1588
Craig (J. M.) 1609
Cremer (G.) 1422
Cuny (G.) 1585
Cuttle (T. D.) 1488
Czerny (E. W.) 1519

David de Sanson (R.) 1512
Debry (G.) 1585
De Carvalho (L. P.) 1427
Dechaume (M.) 1446, 1447
Defoort (R.) 1476
De Graciansky (P.) 1579
Delaporte (J.) 1579
Delaveau (P.) 1448
De Oliveira (H.) 1661
Depieds (R.) 1549
Derriks (R.) 1456
Dickie (Helen A.) 1538
Dickson (J. A.) 1464
Di Menna (Margaret E.) 1473, 1626, 1678
Dorph-Petersen (L.) 1449
Dostrovsky (A.) 1405
Dowding (Eleanor S.) 1629
Downing (J. G.) 1484
Drouhet (E.) 1515, 1594, 1640
Dubois (A.) 1550
Dubrisay (J.) 1477
Durie (E. B.) 1679
Dvořák (J.) 1500
Dyson (J. E.) 1485, 1540

Earle (K.) 1478
Edidin (B. D.) 1527
Ehrmann (G.) 1646
Emmons (C. W.) 1432, 1534
English (Mary P.) 1672
Erikson (Dagny) 1467
Esteves (J.) 1662, 1664
Evans (E. E.) 1485
Evans (T.) 1474
Eveleth (D. F.) 1530

Fabian (G.) 1450
Falconer (M. A.) 1443
Farrell (Anne) 1504
Farris (G.) 1509
Fegeler (F.) 1665
Feo (M.) 1513
Fey (H.) 1468
Fields (M.) 1529
Fiese (M. J.) 1521, 1522
Fingerland (A.) 1500
Fischer (J. B.) 1506, 1541
Fitzpatrick (M. J.) 1537
Flanagan (J. F.) 1628
Fleming (D. S.) 1562
Floch (H.) 1452, 1510, 1551
Folan (D. W.) 1484
Fonseca (A. da) 1664
Forster (E.) 1457
Fox (J. L.) 1612
Frain-Bell (W.) 1417
Frank (H.) 1668
Franks (A. G.) 1410
Freeman (G. G.) 1433
Frey (D.) 1679
Friedman (I. H.) 1444
Frisk (A.) 1539
Fritz (J. M.) 1519
Furcolow (M. L.) 1482, 1542, 1552, 1562
Furnari (Domenica) 1667

Gaches (J.) 1453
Gale (G. R.) 1595
Gallo (G. G.) 1635
Garnier (G.) 1572
Gaudefroy (M.) 1573
Gauthier (R.) 1571
Gelli (G.) 1596, 1597
Georg (Lucille K.) 1425
Gessler (U.) 1589
Getz (Kaare) 1644
Giordani (Guilia) 1501
Glahn (M.) 1458
Gonçalves (A. P.) 1427
González Ochoa (A.) 1487
Goodman (J. J.) 1460
Gordon (L. E.) 1523
Gottlieb (D.) 1430
Goudaert (M.) 1446, 1447
Gouin de Roumilly (P.) 1579
Granits (J.) 1643
Grasset (J.) 1571
Gray (J. D.) 1604
Greff (C.) 1457
Grill (R.) 1583
Grimmer (H.) 1434
Grunberg (E.) 1677
Guttmacher (A. F.) 1611

Haas (R.) 1567
Habermann (R. T.) 1553
Halperin (A.) 1555
Hampson (C. R.) 1524
Hand (E. A.) 1425
Hanf (G.) 1461
Hanf (Ursula) 1461
Harris (J. S.) 1483
Hattori (Z.) 1576
Hazen (E[lizabeth] L.) 1454
Heath (M. K.) 1492
Hedenius (P.) 1539
Helfer (L. M.) 1504
Henington (V. M.) 1435
Henrot (L.) 1636
Herbeuval (Mme H.) 1585
Herbeuval (R.) 1585
Hesseltine (H. C.) 1587
Hilscher (W. M.) 1494
Hilsont (P.) 1570
Hobson (J. L.) 1496
Holm (P.) 1468
Hosoya (S.) 1436
Huber (Margaret) 1559, 1560
Hultin (M.) 1577

Imamura (K. S.) 1436

Jackson (I. J.) 1478
Jacobsen (J.) 1502
Jakubowicz (Helena) 1611
Janiak (E[lzbieta]) 1649
Janiakowa (Elzbieta) 1680, 1681
Janke (D.) 1590, 1591
Johnson (C. G.) 1586
Jones (C. M.) 1604
Jonsen (J.) 1600, 1601, 1602
Jorke (D.) 1581
Joulia (P.) 1486

Kaden (R.) 1399
Kaivers (R.) 1476
Kallner (G.) 1405
Kamatsu (N.) 1436
Kanayama (S.) 1431
Kargl (O. L.) 1463
Kennedy (C. B.) 1435
Knoll (K. H.) 1630
Knoth (W.) 1630
Kogoj (F.) 1401
Königsbauer (H.) 1437
Koroleva (Mme V. P.) 1639
Kral (F.) 1651
Krause (S.) 1630
Kuri (J.) 1478
Kushner (D. S.) 1489, 1527
Kusunoki (S.) 1598, 1599
Kyle (J. W.) 1496

Labzoffsky (N. A.) 1506 1541
Lachance (R.) 1603
Lancer (E.) 1399
Lapidus (Myriam) 1656
Lapidus (S.) 1656
Larkin (J. C.) 1438
Larsh (H. W.) 1552
Latte (B.) 1400
Lavertine (J. D. O'D) 1556
Le Beau (J.) 1453, 1454
Leclercq (R.) 1579
Le Coulant, 1486
Le Gal (Y.) 1457
Leigh (R.) 1557
Lemoine (J. M.) 1477
Leonard (Louise) 1673, 1674
Lepercq (G.) 1402
Levine (S.) 1565
Lévy-Lebhar (G.) 1403
Lévy-Lebhar (J.-P.) 1403
Libby (R. L.) 1529
Licks (F. C.) 1671
Lindemayr (W.) 1404
Lomasney (T. L.) 1488
Longueville (R.) 1426
Loosli (C. G.) 1535
Lubarsky (R.) 1525
Luger (A.) 1404
Lupton (C.) 1444

MacCarthy (Joan) 1462
Mackintosh (J. W.) 1604
Mahassen (M.) 1606
Mahoudeau (D.) 1477
Majewski (C.) 1680, 1681
Majewski (Cz.) 1649
Malfatti (M. G.) 1514
Manciaux (M.) 1585
Mannes (P.) 1456
Máramarosi (G.) 1409, 1412
Mariat (F.) 1428, 1453, 1454, 1640
Marples (Mary J.) 1678
Marselou (U.) 1406
Martin (W. J.) 1503
Martínez Báez (M.) 1487
Martínez Navarro Zanón (A.) 1642
Masoni (S.) 1592
Matrishin (M.) 1460
Matsumoto (K. K.) 1488
Mazet (R.) 1531
McCormack (L. J.) 1464
McGrath (J. T.) 1508
McMillen (Shirley) 1489
McQuown (A. L.) 1466
Meenan (F. O. C.) 1670
Melnotte (P.) 1548
Menges (R. W.) 1552, 1553
Mescon (H.) 1641
Meyer (P. S.) 1407
Michael (M.) 1569
Middleton (J. W.) 1545
Miller (Z. R.) 1532
Miura (O.) 1408, 1598, 1599
Moczko (S.) 1680
Moll (C. F.) 1586
Möller (A.) 1605
Monnet (P.) 1499
Monod (R.) 1606
Montemayor (L.) 1490 1491
Moore (M.) 1623
Moretti (G.) 1641
Mortimer (P. H.) 1655
Mórtola (G.) 1555
Mourey (M.) 1548
Müllhens (K.) 1584
Müller (E.) 1494
Munch-Petersen (E.) 1471
Murphy (M. E.) 1538
Murrell (T. W.) 1411
Muskatbilt (E.) 1410
Muzzio (J. C.) 1511

Nakazawa (S.) 1436
Nassi (L.) 1593
Navarro (J. E.) 1617
Navarro Martín (A.) 1658, 1660
Neal (J. E.) 1492
Newberne (J. W.) 1492
Newcomer (V. D.) 1529
Nicaise (R.) 1456
Nichols (D. R.) 1503
Nieri (I.) 1597
Nikolowski (W.) 1583
Norman (D. D.) 1532
Norris (J. C.) 1505
Noskov (A. I.) 1639
Nuñez Andrade (R.) 1657

Okada (K.) 1436
Oláh (D.) 1409, 1412
Ortiz Masllorens (F.) 1517

INDEX OF AUTHORS (*continued*)

Paldrok (H.) 1645
Panja (G.) 1558
Paulsen (G. A.) 1520
Pautler (E. E.) 1633
Pavlica (F.) 1610
Penta (A. Q.) 1439
Peralta Bergna (H. D.) 1635
Pereiro Miguens (M.) 1413
Perl (Gisella) 1611
Pesle (G.-D.) 1479
Phillips (S.) 1438
Pierini (D. O.) 1555
Pindborg (J. J.) 1449
Pine (L.) 1561
Piredda (A.) 1400
Pirk (L. A.) 1415
Plunkett (O. A.) 1525
Poirier (P.) 1495
Poles (E. C.) 1556
Polo (F. J.) 1491
Porteous (J. W.) 1467
Porter (I. A.) 1451
Potenza (L.) 1513
Poulet (J.) 1477

Querol (H. E.) 1511

Ranque (J.) 1549
Rasch (S.) 1600, 1602
Raubitschek (F.) 1405, 1416
Rego (S.) 1663
Reich (A. R.) 1464
Reid (J. D.) 1411
Reiss(F.)1472,1673, 1674
Reuber (M. D.) 1537
Reyes Mota (A.) 1487
Ribi (E.) 1563
Rice (W. M.) 1526
Rieth (H.) 1420
Rimbaud (P.) 1580
Rioux (J. A.) 1580
Roberts (R. W.) 1633
Robertson (J. W.) 1546
Robinson (R. C. V.) 1616
Rodríguez Moreno (T.) 1659
Rodríguez M. (J. D.) 1634, 1675
Roegel (E.) 1457
Rominger (L.) 1480
Rook (A.) 1654
Rook (A. J.) 1417
Rosenthal (S. A.) 1667
Roth (W.) 1613
Rothfield (N. J.) 1465
Rowley (D. A.) 1559, 1560, 1561
Ruiz (A.) 1474
Ruther (H.) 1423

Saccharin (H.) 1510
Sachs (D.) 1562
Sagher (F.) 1405
Salvin (S. B.) 1542, 1547, 1563
Sampaio (N.) 1663
Sandidge (L. L.) 1564
Sarewitz (A. B.) 1615
Sauer (R. M.) 1470
Schabinski (G.) 1581
Schallock (G.) 1608
Scherr (G. H.) 1536, 1619
Schiff (L. H.) 1609
Schirren (C.) 1420
Schleicher (E. M.) 1526
Schnapka (O.) 1481
Schneider (W.) 1418
Schönfeld (J.) 1419
Schulz (K. H.) 1420
Schwarz (H. G.) 1648
Schwarz (J.) 1482, 1518, 1565, 1566, 1624
Scott (M. J.) 1493
Seeliger (H.) 1614
Segretain (G.) 1515, 1640
Seibold (H. R.) 1631
Sen (S.) 1558
Senault (R.) 1548
Senèze (J.) 1571
Severinghaus (E. L.) 1415
Sharpe (A.) 1421
Sheldon (W. H.) 1628
Short (G. E.) 1526
Showalter (W. V.) 1676
Silverman (F. N.) 1565
Simon (J.) 1507
Skillern (S.) 1644
Skobel (P.) 1581
Sloane (M. B.) 1618
Smith (C. E.) 1523, 1533
Smith (D. T.) 1440, 1483
Smith (J. G.) 1483
Smith (R. T.) 1562
Snapper (I.) 1489, 1527
Soeda (M.) 1436
Sorensen (R. H.) 1522
Sotelo-Ortiz (F.) 1528
Staufenbiel (A.) 1450
Steffen (C. G.) 1529
Stenderup (A.) 1620
Sternberg (T. H.) 1529
Strand (A.) 1600, 1602
Straub (M.) 1565, 1566
Stuart (E. A.) 1632
Sullivan (M.) 1424
Suter (L. S.) 1459
Sutliff (W. D.) 1496

Taranyuk (P. S.) 1638
Taschdjian (Claire L.) 1410
Testard (E.) 1453, 1454
Teuscher (E.) 1468
Thjøtta (T.) 1600
Thomas (H. E.) 1557
Thys (A.) 1636
Timpe (Alice) 1569
Titsworth (E.) 1677
Turn (Jenny) 1530
Ulrich (Elizabeth W.) 1429
Ulrich (J.) 1644
Underwood (P. C.) 1625

Vanbreuseghem (R.) 1475, 1476, 1550 1568, 1636
Van de Kamp (J.) 1455
Van Eeckhoutte (P.) 1621
Vaucher (E.) 1457
Vaughan (B. F.) 1459
Verge (J.) 1570
Viart (P.) 1573
Vieu (J. P.) 1572
Vincent (A.) 1426
Visy (J. L.) 1441
Vogel (R. A.) 1569
Vortel (V.) 1500

Wallace (H. J.) 1622
Wallach (E. A.) 1414
Warin (R. P.) 1672
Wedin (D. S.) 1523
Whimster (I. W.) 1607
White (F. C.) 1554
Whitfield (G. B.) 1430
Whittle (C. H.) 1653
Wiedmann (A.), 1646
Wiehl (R.) 1423
Wilde (H.) 1647
Williams (Marjorie J.) 1445
Winter (W. D.) 1578
Wood (J. L.) 1424
Wynn (J. O.) 1627

Yamada (J.) 1431
Yamaguchi (T.) 1436
Yamamoto (K.) 1431
Young (J. M.) 1429

Zapater (R. C.) 1511, 1514
Zdráhal (L.) 1500
Zuliani (A.) 1592

SUBJECT INDEX

Actinomycosis, 1442, 1443, 1444, 1445–58, 1459–68, 1469–72, 1634
Air, fungi in the, 1473, 1474
Allescheria boydii, 1475, 1631–4
Antibiotics, 1428, 1430, 1433, 1434, 1436, 1441, 1442, 1448, 1449, 1450, 1455, 1456, 1459, 1460, 1462, 1464, 1465, 1466, 1507, 1523, 1557, 1572–80, 1583, 1584, 1589, 1592, 1596, 1608, 1610, 1612, 1615, 1616, 1618, 1621, 1633, 1649, 1660
Aspergillosis, 1476, 1477, 1478, 1479, 1480, 1481, 1637, 1646
Blastomycosis (N. Amer.), 1482, 1483–96, 1515, 1542
Blastomycosis (S. Amer.), 1509–15
Chromoblastomycosis, 1516
Coccidioidomycosis, 1438, 1482, 1517–33, 1542
Cultural studies of pathogenic fungi, 1467, 1472, 1514, 1524, 1559, 1561, 1640, 1645, 1652
Dermatophytes, 1400, 1402, 1403, 1404, 1405, 1406, 1407, 1408–19, 1420–8, 1434, 1637, 1641–59, 1600–81
Epidermophyton, 1407, 1413, 1434, 1646, 1652, 1653, 1669, 1676, 1681
Fungicides, 1399, 1414, 1415, 1419, 1423, 1426, 1431, 1441, 1448, 1455, 1456, 1464, 1465, 1466, 1484, 1486, 1488, 1489, 1493, 1495, 1496, 1504, 1505, 1507, 1510, 1512, 1521, 1527, 1529, 1545, 1555, 1575, 1576, 1584, 1585, 1586–8, 1593, 1595, 1596, 1603, 1604, 1611, 1619, 1620, 1622, 1632, 1633, 1635, 1637, 1646, 1648, 1657, 1662, 1666, 1668, 1671, 1677, 1680, 1681
General, 1432, 1440
Geotrichosis, 1477, 1594
Histoplasmosis, 1438, 1482, 1534–61, 1562–70, 1638, 1639
Madura foot, see Mycetoma
Malassezia furfur, 1637, 1653
Microsporum, 1402, 1413, 1651, 1652, 1653, 1655, 1658, 1659, 1661, 1662, 1663, 1664, 1665, 1670, 1671, 1672, 1673, 1674, 1675, 1676, 1677, 1678, 1679, 1680
Moniliasis, 1434, 1436, 1479, 1571–1622, 1623–6, 1643, 1646
Mucormycosis, 1627, 1628
Mycoses of animals, 1418, 1432, 1437, 1446, 1447, 1468, 1469, 1470, 1471, 1492, 1497, 1500, 1508, 1515, 1523, 1526, 1530, 1536, 1550, 1551, 1552, 1553, 1560, 1619, 1624, 1625, 1629, 1635, 1638, 1639, 1640, 1644, 1650, 1651, 1654, 1655, 1670, 1673, 1674
Onychomycosis, 1406, 1623, 1665
Penicillium infection, 1637, 1646
Physiology of fungus pathogens, 1408, 1424, 1467, 1652
Rhinosporidiosis, 1635, 1636
Sporotrichosis, 1427, 1428, 1429
Technique, 1410, 1500, 1506, 1525, 1541, 1559, 1563, 1566, 1590, 1599, 1611, 1613 1614, 1675
Torulosis, 1497–1500, 1502–8
Trichophytia profunda, 1401, 1660
Trichophyton, 1400, 1401, 1402, 1403, 1404, 1405, 1406, 1409, 1411, 1412, 1413, 1416, 1417, 1418, 1420, 1422, 1424, 1425, 1434, 1436, 1623, 1637, 1646, 1651, 1652, 1653, 1654, 1655, 1656, 1658, 1659, 1661, 1662, 1663, 1664, 1667, 1668, 1669, 1670, 1675, 1676, 1677, 1680, 1681
Yeast-like fungi, 1501, 1630
— phases of pathogenic fungi, 1540, 1559, 1560, 1561, 1563, 1568

PRINTED IN GREAT BRITAIN AT THE UNIVERSITY PRESS, OXFORD
BY CHARLES BATEY, PRINTER TO THE UNIVERSITY

Volume II *Part 8*

REVIEW OF MEDICAL AND VETERINARY MYCOLOGY

Edited by

S. P. WILTSHIRE, M.A., D.Sc.
DIRECTOR, COMMONWEALTH MYCOLOGICAL INSTITUTE

in collaboration with

CHARLES WILCOCKS, M.D., F.R.C.P., D.T.M. & H.
DIRECTOR, BUREAU OF HYGIENE AND TROPICAL DISEASES

J. T. DUNCAN, F.R.C.S., L.R.C.P.(IRE.), D.T.M. & H.
LATELY DIRECTOR OF MEDICAL MYCOLOGY, LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE

and

W. A. POOL, M.R.C.V.S.
LATELY DIRECTOR, COMMONWEALTH BUREAU OF ANIMAL HEALTH

THE COMMONWEALTH MYCOLOGICAL INSTITUTE
KEW, SURREY

Price 12*s.* 6*d.* ($1.75) *net, post free*

1956

NOTICE

THE literature on medical and veterinary mycology is widely scattered and frequently difficult to consult. Certain aspects of the subject are covered by various abstracting journals, but no journal covers them all. For over twenty years the *Review of Applied Mycology* abstracted papers dealing chiefly with the systematic aspect, and the *Tropical Diseases Bulletin* and the *Bulletin of Hygiene* still review selected papers from the medical point of view, but this journal aims at surveying the field completely. It covers all important papers on medical and veterinary mycology and supplies where necessary references to abstracts in other abstracting journals.

Formerly known as the *Annotated Bibliography of Medical Mycology*, the journal was renamed the *Review of Medical and Veterinary Mycology* in 1951. The *Review* is now appearing in two parts each year and, commencing with Part 9, the annual subscription will be 20*s*. ($2.80), single parts being sold separately at 12*s*. 6*d*. ($1.75). Back issues are available as follows:—Volume I, first eight parts 10*s*. ($1.40) each; Volume I Cumulative Index 20*s*. ($2.80); Volume I, parts 9–12, and Volume II, parts 1–date, 12*s*. 6*d*. ($1.75) each. The subscription price is payable in advance.

Authors are requested to assist in the work by sending reprints of their papers as soon as possible after publication to the Director, Commonwealth Mycological Institute, Kew, Surrey, to whom orders and correspondence respecting the *Review* should be addressed.

A CUMULATIVE INDEX OF VOLUME I OF THE REVIEW OF MEDICAL AND VETERINARY MYCOLOGY

covering the years 1943–1952 *is now available, price* 20*s*. ($2.80) *net, post free. Orders should be addressed to the Director, Commonwealth Mycological Institute, Kew, Surrey, England*

INDEX OF AUTHORS

Abbot (P.) 1910
Abraham (A.) 1783
Ainsworth (G. C.) 1717, 1718, 1719, 1720, 1721
Aizawa (H.) 1890
Ajello (L.) 1722, 1828
Alecrim (I. da C.) 1755, 1756
Ales Reinlein (J. M.) 1713
Altamira (J.) 1859
Alvarez de Lara y García (R.) 1927
Ambrosioni (P.) 1883
Amuchastegui (S. R.) 1859
Ansel (M.) 1881
Antalóczy (Z.) 1728
Antunes (Maria M.) 1707
Armen (R. M.) 1906
Artagaveytia-Allende (R. C.) 1746
Atkins (D.) 1723, 1724
Austwick (P. K. C.) 1720, 1721
Avery (R. J.) 1735
Azulay (R. D.) 1806

Baker (R. D.) 1797, 1798
Bain (G. O.) 1818
Baldacci (E.) 1736
Bannatyne (C. C.) 1752
Barnard (N. H.) 1688
Batista (A. C.) 1755
Benaim (C.) 1777
Benham (Rhoda W.) 1693
Bergamini (Rose) 1870
Bernard (J.) 1877
Best (C. A.) 1767
Bichel (J.) 1907
Biguet (J.) 1919
Binford (C. H.) 1865
Bingham (Eula L.) 1850, 1868
Black (W. C.) 1741
Blank (F.) 1694, 1735
Bocobo (F. C.) 1780
Bontke (E.) 1902
Bordelon (I.) 1897
Bound (J. P.) 1903
Bourgain 1710
Boynton (Ruth E.) 1837
Brasher (C. A.) 1827
Breslau (A. M.) 1813
Bretán (N.) 1728
Brion (S.) 1737
Browning (W. H.) 1771
Brusco (G. R.) 1859

Cain (A.) 1831
Cairns (R. I.) 1703
Caldwell (D. C.) 1796
Calnan (C. D.) 1695
Campins (H.) 1829
Carmichael (J. W.) 1818
Carson (R. P.) 1824*a*
Cason (Louise R.) 1765
Castrecho Alvarez (J.) 1766
Cazin (J.) 1874, 1875, 1876
Chakraborty (A. N.) 1694
Chaves-de-Almeida (R. P.) 1836
Cherniss (E. I.) 1782
Chicote (M. N.) 1866
Chin (T. D. Y.) 1867
Christensen (O. W.) 1840
Christie (A.) 1826
Chute (H. L.) 1762
Clarke (Martha) 1777
Close (H. G.) 1703
Coalson (R. E.) 1929
Cochet (G.) 1919
Cohen (R.) 1820, 1823
Collins (D. C.) 1833
Collins-Williams (C.) 1767
Conant (N. F.) 1785
Converse (J. L.) 1812
Coode (C. D.) 1748
Coudert (J.) 1690, 1725
Coutelen (F.) 1919
Coutois (G.) 1851
Cowan (D.) 1837
Creitz (J. R.) 1810
Crispell (K. R.) 1858
Csiky (T.) 1728
Curtis (A. C.) 1780
Cutter (V. M.) 1731

Deck (F.) 1839
Degnan (E. J.) 1743
Delarue (J.) 1738
Delaveau (P.) 1737
Dereymaeker (A.) 1763
De Somer (P.) 1763
Dessureault (R.) 1784
Doby-Dubois (M.) 1919
Doerner (A. A.) 1817
Dorante (M.) 1829
Downing (W.) 1753
Drouhet (E.) 1850, 1854, 1877
Dunn (R. C.) 1856
Dutton (L. O.) 1773, 1774
Dyson (J. E.) 1842

Eberhartinger (C.) 1745
Eby (C. H.) 1869
Edwards (Phyllis Q.) 1835, 1839, 1840
Egbert (E.) 1832
Egeberg (R. O.) 1822
Ehrmann (G.) 1702
Eisman (P. C.) 1849
Elliott (J. F.) 1818
Ely (A. F.) 1822
Emmons (C. W.) 1803, 1843, 1917
Eng (N.-I. T.) 1839, 1855
English (Mary P.) 1688
Erbakan (N.) 1924
Erikson (D.) 1740
Esandi (F.) 1866
Esteves (J.) 1707
Eto (K.) 1898
Evans (E. E.) 1842

Fabricant (N. D.) 1757
Fauconnier (J.) 1896
Fazakas (A.) 1733
Feinberg (A. R.) 1777
Feinberg (S. M.) 1777
Fernandez Castro (J.) 1766
Florian (E.) 1789
Fok (L. G.) 1855
Földvari (F.) 1789
Foley (G. E.) 1882, 1884
Folley (G. E.) 1802
Friedman (Lorraine) 1814
Furcolow (M.) 1867
Furcolow (M. L.) 1827, 1834

Gale (D.) 1739
Gandy (D. G.) 1769
Gatti (F.) 1922, 1923
Gauthier (C.) 1881
Geftic (S.) 1849
Gephardt (M. C.) 1914
Geser (A. G.) 1840
Ghosh (S.) 1694
Giroux (M.) 1784
Giusiano (L.) 1759
Gladney (J. H.) 1816
Gómez López (L.) 1829
Goodman (H. L.) 1791
Gordon (L. E.) 1814
Gorrill (R. H.) 1740
Granits (J.) 1702
Grayston (J. T.) 1834, 1844
Greene (L. W.) 1741
Grein (A.) 1736
Groves (F.) 1929
Guilhon (J.) 1711
Guiot (G.) 1737
Gumpesberger (G.) 1691

Halliday (W. J.) 1787
Hamlin (J.) 1858
Hanlon (T. J.) 1914
Hansell (J.) 1696
Harrell (E. R.) 1780
Harris (J. S.) 1785, 1918
Haugen (R. K.) 1797, 1798
Hawks (G. H.) 1712
Hazen (Elizabeth L.) 1841
Heeren (R. H.) 1834
Henington (V. M.) 1897
Heptinstall (R. H.) 1740
Herrero (A.) 1859
Hicks (P. K.) 1929
Hidalgo de Pablo-Blanco (M.) 1742
Hinds (E. C.) 1743
Hoffman (C. L.) 1817
Hollifield (G.) 1858
Hoops (E. H.) 1692
Hopkins (J. E.) 1781
Hopps (H. C.) 1914
Huber (Margaret) 1845
Huppert (M.) 1874, 1875, 1876
Hyde (H. A.) 1770

Isa (J. M.) 1751

Jablon (S.) 1837
Jacobson (F. W.) 1709
Jelliffe (D. B.) 1709
Jirousek (L.) 1889
Jirsák (J.) 1889
Joe (L. K.) 1839, 1855
Johnson (J. E.) 1832
Jung (H.-D.) 1698

Kaffka (A.) 1887
Kane (G. J.) 1753
Kaplan (M. A.) 1772
Kärcher (K. H.) 1873
Kelcek (Louise C.) 1870
Kennedy (C. B.) 1897
Kernan (P.) 1837
Kessler (C. R.) 1861
Kesten (Beatrice M.) 1693
Khalfat (A.) 1744
Kiaer (Joyce H.) 1835
Kisch (B.) 1716
Kissmeyer-Nielsen (F.) 1907
Kjølbye (E. H.) 1840
Kleine-Natrop (H.-E.) 1926
Kligman (A. M.) 1727
Kobayashi (G. S.) 1815
Kominami (K.) 1708
Königsbauer (H.) 1804
Konopka (E.) 1849
Koulumies (R.) 1908
Kuentz (J.) 1754
Kutscher (A. H.) 1892

Ladjimi (R.) 1744
Lahey (M. E.) 1824*a*
Lallemand (M.) 1759
Lamb (J. H.) 1929
Lazarus (A. S.) 1828
Levaditi (J.-C.) 1851
Levene (M.) 1794
Levin (W. C.) 1832
Levy (L. J.) 1819
Lévy-Lebhar (G.) 1697
Lewis (Florence S.) 1727
Lewis (S.) 1892
Lichtensteiger (A.) 1901
Lie Kian-Joe 1855
Linhartová (Alena) 1799
Lipscomb (C. P.) 1819
Little (G. N.) 1841
Littman (M. L.) 1790
Locke (R. K.) 1921
Lopez (R. A.) 1925
Lövei (E.) 1728
Lubinsky (G.) 1920
Luddecke (H. F.) 1783
Lux (J. J.) 1860

MacKenna (R. M. B.) 1695
Mackinnon (J. E.) 1746, 1911
MacMillan (H.) 1779
Macpherson (D. A.) 1874
Magnin (P. H.) 1931
Maia (H. da S.) 1755
Maier (C.) 1901
Malfatti (M.) 1706, 1909
Mankiewicz (Edith) 1871
Manten (A.) 1684
Mariat (F.) 1851
Masoni (S.) 1883
Mathe (G.) 1877
Mayer (R. L.) 1849
McCoy (Elizabeth) 1787
McDiarmid (A.) 1761
McDonald (H. C.) 1819
McMahon (J. M.) 1861
Meenan (F. O. C.) 1682
Meijer (J. H.) 1840
Meloni (F.) 1900
Menu (P.) 1862
Meyer (A.) 1754
Meyer (G. H.) 1774
Michaels (L.) 1794
Misch (K. A.) 1793
Mlczoch (F.) 1878
Molinas (S.) 1687
Molnár (J.) 1800
Monod (O.) 1754
Montero (E. D.) 1807
Montero Rodríguez (P.) 1742
Montreuil (F.) 1758
Mordaunt (Verna) 1841
Morrow (Marie B.) 1772, 1774
Morton (Mary M.) 1888
Moss (A. C.) 1750
Müllhens (H. J.) 1714
Mullet (S.) 1919
Murphy (J. D.) 1781
Murray (T. J.) 1885
Muskatblit (E.) 1700
Myers (J. A.) 1837

Neuhauser (Irene) 1915
Ney (P. E.) 1867
Nisbet (D. I.) 1752
Nobrega (P.) 1729
Nordén (A.) 1715
Nuttall-Smith (J.) 1864

Obry (J.) 1711
O'Connor (R.) 1823
O'Meara (D. C.) 1762
Ortenzio (L. F.) 1685, 1686
Ortiz Masllorens (F.) 1713
Owen (E. T.) 1778

Palazzi (D.) 1760
Pappagianis (D.) 1815
Parson (W.) 1858
Partridge (B. M.) 1696
Patiala (R.) 1908
Paucher, 1710
Paxton (G. B.) 1867
Peacock (C. L.) 1853
Peck (S. M.) 1870
Peck (W. A.) 1808
Pereiro Miguens (M.) 1930
Perry (H. O.) 1891
Peterson (J. C.) 1826
Pine (L.) 1853
Piro (J. D.) 1892
Prince (H. E.) 1772, 1774
Puckett (T. F.) 1810, 1863

Quak (Freda) 1905

Raetz (S. J.) 1830
Rakich (Jennie H.) 1867
Raphael (S. S.) 1796
Rappaport (H.) 1792
Raubitschek (F.) 1689
Rebell (G.) 1929
Redaelli (P.) 1760
Reed (R. E.) 1824
Reiersöl (Signy) 1705
Reifferscheid (M.) 1912
Rein (C. R.) 1870
Reis (J.) 1729
Repetto (O. M.) 1730
Revil (H.) 1862

INDEX OF AUTHORS (*continued*)

Richards (M.) 1770
Richter (R.) 1924
Rieth (H.) 1893
Riley (H. D.) 1838
Ringen (L. M.) 1869
Ristic (M.) 1928
Robertson (J. A.) 1894
Rodrigues Pereira (A. S.) 1905
Romendick (S. A.) 1808
Rosen (H.) 1802
Rossi (L.) 1760
Rotkow (M. J.) 1856
Rountree (J. L.) 1762
Rowley (D. A.) 1843, 1845
Roy (L.) 1754
Ryan (R. W.) 1831

Sachsenneger (R.) 1734
Saito (Margaret T.) 1811
Saltzman (B. N.) 1867
Salvin (S. B.) 1844, 1846, 1847, 1852
Samsøe-Jensen (T.) 1775, 1776
Sanders (D. A.) 1928
Sanjines (A.) 1807
Sansonetti de Real (A.) 1904
Saslaw (S.) 1848
Savage (A.) 1751
Schaeffer (J.) 1848
Scherr (G. H.) 1872
Schirren (C.) 1893
Schlomka (G.) 1749
Schnapka (O.) 1786
Schrader-Beielstein (H.W.) 1899
Schwarz (J.) 1824*a*, 1825, 1850, 1854, 1868
Seeliger (H.) 1912, 1913
Seeliger (H. P. R.) 1899
Segretain (G.) 1851
Seguin (Lucille) 1892
Shapiro (J. L.) 1860
Sharp (J. L.) 1880
Sharvill (D.) 1699
Shigematsu (S.) 1898
Silva (Margarita) 1693
Silverman (F. N.) 1824*a*
Simons (Susan A.) 1811
Singer (H.) 1836
Singh (M.) 1816
Sloper (J. C.) 1683
Smith (C. E.) 1811, 1814, 1815
Smith (D. T.) 1785
Smith (G. M.) 1906
Smith (H.) 1876
Smith (R. T.) 1830
Smith (S. G.) 1785
Snider (K.) 1897
Sommer (S.) 1728
Soneda (M.) 1708
Sones (C. A.) 1856
Spalla (C.) 1736
Spicknall (C. G.) 1831
Sprofkin (B. E.) 1860
Staib (F.) 1879
Stenderup (A.) 1907
Sternberger (L. A.) 1777
Sturde (H. C.) 1895
Sullivan (M.) 1701
Susman (M. P.) 1795
Symeonidis (A.) 1917

Takaro (T.) 1781
Takos (M. J.) 1805
Tanzola (J.) 1849
Taschdjian (Claire L.) 1700
Tat (L.) 1924
Tesle (G.) 1754
Thiry (S.) 1747
Timmons (H. F.) 1929
Tirschek (H.) 1691
Tjokronegoro (S.) 1855
Tost (J. F.) 1807
Tsai (S. Y.) 1832
Tudbury (Patricia) 1809
T'ung-en (C.) 1801

Ulrich (J. A.) 1891
Uzman (L. L.) 1802

Vanbreuseghem (R.) 1922, 1923
Van der Werff (P. J.) 1768
Van Staveren (C.) 1821
Van Uden (N.) 1836
Vignale (B.) 1807
Vital (A. F.) 1756
Vivot (N. A.) 1931
Waisbren (B. A.) 1782
Waldron (C. A.) 1739
Ware (Mildred) 1867
Warren (S. A.) 1777
Weed (L. A.) 1788
Wegmann (T.) 1901
Wei-Fang (C.) 1801
White (M. L.) 1778
Whitmore (Margaret) 1867
Williams (D. A.) 1770
Wilsdon (A. J.) 1753
Wilson (Katherine S.) 1731
Windisch (S.) 1704, 1886, 1879
Winsten (S.) 8885
Winter (W. D.) 1882, 1884
Witter (J. F.) 1762
Wood (J. L.) 1916, 1701
Wortmann (F.) 1764

Yannopoulou (Mme K.) 1747
Yast (C. J.) 1816
York (J. R.) 1857

Zapater (R. C.) 1706, 1909
Zegarelli (E. V.) 1892
Zidy (T.) 1754
Zimmerman (L. E.) 1732, 1790, 1792
Zubillaga Z. (C.) 1829

SUBJECT INDEX

Actinomycosis, 1706, 1714, 1735–49
Air, fungi in the, 1764–70, 1774, 1776
Aleurisma castellanii, 1707
Allergic diseases, 1766–77
Allescheria boydii, 1722, 1912–14
Antibiotics, 1783, 1789, 1794, 1799, 1821, 1850, 1859, 1870, 1873, 1874, 1876–80, 1882–3, 1890–1, 1894, 1896–7, 1900–1, 1906, 1908, 1912
Aspergillosis, 1721, 1729, 1732–3, 1754–62, 1767, 1783
Blastomycosis (N. Amer.), 1778–89, 1842, 1847
Blastomycosis (S. Amer.), 1706
Chromoblastomycosis, 1806–7
Cladosporium infection, 1763
Coccidioidomycosis, 1730, 1808–24
Cultural studies of pathogenic fungi, 1688–9, 1694, 1702, 1704, 1708, 1736, 1755–6, 1787, 1812, 1853–4, 1884, 1909, 1916
Dermatophytes, 1682–1705, 1707–9, 1730, 1893, 1895, 1922–31
Epidermophyton, 1683, 1689, 1924
Fungicides, 1684, 1687, 1692, 1698–9, 1701, 1712, 1714, 1730–1, 1738, 1741, 1743, 1745, 1757, 1759, 1779, 1780–2, 1785, 1789, 1796, 1804, 1816, 1820, 1823, 1849, 1875, 1880, 1889–90, 1892, 1894, 1898, 1900–1, 1903, 1905–7, 1912, 1915, 1918, 1923, 1926, 1928, 1930.
General, 1716–17, 1719–29, 1732, 1891, 1920.
Haplosporangiosis, 1721, 1813
Histoplasmosis, 1706, 1722, 1730, 1732, 1824*a*–69.
Madura foot, see Mycetoma
Malassezia furfur, 1709
Microsporum, 1690, 1730–1, 1905, 1922, 1926–31
Moniliasis, 1706, 1714, 1722, 1729, 1731–2, 1767, 1799, 1847, 1870–98, 1900–7, 1921
Mucormycosis, 1721, 1732, 1733, 1916–18
Mycetoma, 1744, 1746, 1910–15
Mycoses of animals, 1687, 1693–4, 1714, 1718, 1720–1, 1729, 1737, 1739–40, 1742, 1761, 1796, 1804–5, 1810, 1814–15, 1822, 1824, 1842–4, 1845–6, 1848–52, 1855, 1868–9, 1876, 1881–4, 1893, 1898–9, 1904, 1916–17, 1927–9
Mycoses of the eye, 1733, 1734
Onychomycosis, 1695, 1703, 1755–6, 1786, 1895–6, 1921
Penicillium infection, 1921
Physiology of fungus pathogens, 1688–9, 1693, 1700, 1704, 1708, 1715, 1736, 1787, 1802, 1812, 1813, 1815, 1853, 1885, 1886, 1890
Piedra, 1705, 1710
Pityrosporum, 1708
Scopulariopsis, 1702, 1703, 1919
Sporotrichosis, 1711–15, 1730
Technique, 1685–6, 1693, 1706, 1715, 1727, 1741–2, 1762, 1771, 1774–7, 1782, 1792, 1800, 1810, 1812, 1814, 1832, 1842–3, 1853, 1854, 1871–3, 1876, 1881, 1887–8, 1899, 1909, 1913, 1931
Torulosis, 1721–2, 1731–3, 1783, 1789–1805
Trichophyton, 1682–91, 1693–1701, 1704–5, 1714, 1721, 1729–31, 1905, 1922–4, 1927
Yeast-like fungi, 1908–9
— phases of pathogenic fungi, 1706, 1851, 1853, 1854

PRINTED IN GREAT BRITAIN AT THE UNIVERSITY PRESS, OXFORD
BY CHARLES BATEY, PRINTER TO THE UNIVERSITY

GCA

Volume II *Part 9*

REVIEW OF MEDICAL AND VETERINARY MYCOLOGY

Edited by

J. C. F. HOPKINS, D.Sc., A.I.C.T.A.
DIRECTOR, COMMONWEALTH MYCOLOGICAL INSTITUTE

in collaboration with

CHARLES WILCOCKS, C.M.G., M.D., F.R.C.P., D.T.M. & H.
DIRECTOR, BUREAU OF HYGIENE AND TROPICAL DISEASES

J. T. DUNCAN, F.R.C.S., L.R.C.P.(IRE.), D.T.M. & H.
LATELY DIRECTOR OF MEDICAL MYCOLOGY, LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE

and

M. CRAWFORD, M.R.C.V.S.
DIRECTOR, COMMONWEALTH BUREAU OF ANIMAL HEALTH

THE COMMONWEALTH MYCOLOGICAL INSTITUTE
KEW, SURREY

Price 12*s.* 6*d.* ($1.75) *net, post free*

1957

NOTICE

THE literature on medical and veterinary mycology is widely scattered and frequently difficult to consult. Certain aspects of the subject are covered by various abstracting journals, but no journal covers them all. For over twenty years the *Review of Applied Mycology* abstracted papers dealing chiefly with the systematic aspect, and the *Tropical Diseases Bulletin* and the *Bulletin of Hygiene* still review selected papers from the medical point of view, but this journal aims at surveying the field completely. It covers all important papers on medical and veterinary mycology and supplies where necessary references to abstracts in other abstracting journals.

Formerly known as the *Annotated Bibliography of Medical Mycology*, the journal was renamed the *Review of Medical and Veterinary Mycology* in 1951. The *Review* is now appearing in two parts each year and, commencing with Part 9, the annual subscription will be 20*s*. ($2.80), single parts being sold separately at 12*s*. 6*d*. ($1.75). Back issues are available as follows:—Volume I, first eight parts 10*s*. ($1.40) each; Volume I Cumulative Index 20*s*. ($2.80); Volume I, parts 9–12, and Volume II, parts 1–date, 12*s*. 6*d*. ($1.75) each. The subscription price is payable in advance.

Authors are requested to assist in the work by sending reprints of their papers as soon as possible after publication to the Director, Commonwealth Mycological Institute, Kew, Surrey, to whom orders and correspondence respecting the *Review* should be addressed.

A CUMULATIVE INDEX OF VOLUME I OF THE REVIEW OF MEDICAL AND VETERINARY MYCOLOGY

covering the years 1943–1952 *is now available, price* 20*s*. ($2.80) *net, post free. Orders should be addressed to the Director, Commonwealth Mycological Institute, Kew, Surrey, England*

INDEX OF AUTHORS

Adams (Elizabeth) 2148
Adams (L.) 1948
Ajello (L.) 1980, 2068, 2073, 2148
Altman (P. L.) 2073
Anderson (W. H.) 2037
André (J.) 2076
Ardillou, 2026
Armstrong (Elizabeth C.) 2121
Ashbel (R.) 2042
Ashner (M.) 2041
Audebaud (G.) 2080, 2081
Austwick (P. K. C.) 2023

Baer (R. L.) 2204
Baez (M. M.) 2034
Baker (L. A.) 2104
Baker (P. L.) 2064
Bakerspigel (A.) 1957, 2072
Balabanoff (V. A.) 1960
Baldo (J. L.) 2059
Ballarini (G.) 2024
Bardiaux (M.) 2132
Barlow (A. J. E.) 2203
Barrière (H.) 2052
Barzizza (C. M.) 1969
Bauer (H.) 2148
Beadenkopf (W. G.) 2073
Beamer (P. R.) 1984
Beck (F.) 2202
Bell (J. A.) 2073
Benham (Rhoda W.) 2040
Berman (R. J.) 2062
Bichel (J.) 2119
Biefang (B. F.) 1936
Biguet (J.) 2177
Binder (L.) 2051
Bingham (Eula) 2094
Bishop (D. W.) 2135
Bjørnstad (R. T.) 1955
Blanc (P. F.) 2043
Blank (F.) 1962, 2028
Blinick (G.) 2134
Bonfiglioli (H.) 2044
Bonmati (J.) 2050
Borelli (D.) 2057
Borok (R.) 1945
Boshes (L. D.) 2049
Bowden (D. H.) 2149
Bowden (J. P.) 2189
Boynton (Ruth E.) 2087
Bremner (R.) 1957
Bret (A. J.) 2132
Briceno Maaz (T.) 1989
Brueck (J. W.) 2154
Bryant (J.) 2077
Bryne (H. J.) 2054
Bryner (S.) 2099
Budurin (A. A.) 2068
Bureau (Y.) 2052
Burger (C. H.) 2069
Burgisser (H.) 2027
Bushueff (B. P.) 2100

Callens (J.) 2048
Calnan (C. D.) 1938
Campbell (Charlotte C.) 2073
Campos (S.) 2056
Carll (W. T.) 2021
Carneiro (L. S.) 2056
Carrion (A.) 1977
Castro (R. M.) 2084
Cauda-Di Puma (A.) 2115
Cernea (P.) 2010
Chamberlin (D. M.) 2073
Chattaway (F. W.) 2203
Chatterjee (M. K.) 2067
Chauvier (G.) 2174
Chick (E. W.) 2035
Christian (J. R.) 2065
Ciferri (R.) 2056
Cochet (G.) 2177
Cohen (S. G.) 1953
Cole (C. R.) 2073
Collier (H. O. J.) 1944
Collins (J. H.) 2145
Conant (N. F.) 1981
Cooke (W. B.) 2003, 2073
Corbelli (G.) 2082
Cordeiro de Azevedo (P.) 2056
Courtois (C.) 2158
Cowan (D.) 2087
Cozad (G. C.) 2073, 2075
Cremer (G.) 1951
Crossland (P. M.) 1933
Cruickshank (C. N. D.) 1949
Csillag (A.) 2051
Csobán (G.) 2187
Culp (R. L.) 2073, 2085, 2086
Curry (F. J.) 2061

Da Fonseca (A.) 2207, 2208
Daglio (C. A. N.) 2160
Damgaard-Mørch (P.) 2014
Das (A. K.) 2067
Deblock (S.) 2177
de Briceno Maaz (C.) 1989
Deb Sikdar (B. M.) 2067
Del Giudice (V.) 2029
Del Negro (G.) 2084
De Magalhães (O.) 2005
Depoux (R.) 2080, 2081
de Vries (Joan) 2008
Dey (N. C.) 2157
Di Menna (Margaret E.) 1991
Dingle (J. H.) 2073
Doby-Dubois (M.) 2177
Dolb (A.) 2042
Domínguez (L.) 2127
Donoho (R. S.) 2135
Donomae (I.) 2120
Dordević (Z.) 2055
Doucette (Jeanne) 2066
Doupagne (P.) 2158
Downing (J. G.) 1942
Drummond (M.) 2140
Durbin (C. G.) 2145
Durie (E. Beatrix) 1935

Emmons (C. W.) 2053, 2073, 2097, 2153
Eng (N-I. T.) 2153
Englert (H. K.) 2046
Esquirol, 2026
Essigke (G.) 2111
Etter (K. G.) 2031

Fagan (R.) 1987
Falcone (G.) 2117
Farrell (R. L.) 2073
Faurel (L.) 2033
Fegeler (F.) 2183
Feller (A. E.) 2073
Ferguson (G. B.) 1993
Fischer (E.) 1967
Fischer (G. W.) 2128
Fisher (A. M.) 2018
Floch (H.) 2076
Flores del Fierro (C. H.) 1936
Foley (G. E.) 2124
Forgacs (J.) 2021
Forni (P. V.) 2115
Frágner (P.) 2205
Friedl (J. L.) 1965
Friedman (Lorraine) 2062, 2063
Fuentes (C. A.) 2152
Fujii (T.) 2181
Fukazawa (Y.) 2107, 2108
Furcolow (M. L.) 2035, 2073

Ganzin (M.) 2081
Garlopeau (F.) 2010
Garnier (G.) 2142
Garrett (H. D.) 1971
Gebhardt (L. P.) 2118
Geiser (J. D.) 1937
Geldmacher-Mallinckrodt (M.) 2188
Gentles (J. C.) 2197, 2198
Georg (Lucille K.) 1946, 1954, 1961, 2171, 2178, 2179
Ghislain (E.) 2196
Gierløff (B. C. H.) 2172
Godinger (D.) 2041
González Ochoa (A.) 2020, 2034, 2127
Gordon (M. A.) 2073
Gothan (J. E.) 1973
Gram (H. G.) 2114
Granelli (U.) 2129
Grayston (J. T.) 2073
Greene (C. H.) 2088
Grigoraki (L.) 2163, 2164
Grimmer (H.) 2193
Guicherit (J. D.) 2077
Guilhon (J.) 2174
Gunson (H. H.) 2149
Gutierrez (J. E.) 1936

Habel (K.) 2073
Hadlow (W. J.) 1948
Hajsig (M.) 2150
Halde (C.) 2015
Haley (L. D.) 2109
Hall (C.) 2073
Hall (J. A.) 2121
Hammer (D.) 2046
Hanf (Ursula) 2019
Hansen (P.) 2200
Harvey (J. C.) 2018
Hayes (F. A.) 1947
Hazen (Elizabeth L.) 2088, 2089
Heeren (R.) 2073
Helmbright (A. L.) 2073
Helms (P.) 2122
Henriksen (S. D.) 2194
Hernandez (D. U.) 2148
Herrera (J. M.) 2058
Herring (A. S.) 2021
Hill (D. W.) 2118
Hillegas (A. B.) 2073
Hinton (Agnes) 2073, 2075, 2090, 2091
Hodges (F. A.) 2145
Hojman (D.) 2044
Holmes (J. G.) 2198
Hooft (C.) 2048
Hoogendijk (J. L.) 2074, 2098
Hoogendijk-van Dort (T. E.) 2074, 2098
Hopkins (W. A.) 2050
Horner (Sibyl) 1940
Horr (W. H.) 2073
Hottle (G. A.) 2073
Howell (A.) 2007
Hubble (R. H.) 2054
Huppert (M.) 1950
Hurd (R. C.) 1968
Huxley (M. Joan) 1968, 2176

Ibarra (L. M.) 2131
Ilukewitsch (A.) 2002
Ito (K.) 1952

Jablon (S.) 2087
Janke (D.) 2151, 2191
Janke (Frau R. G.) 2190
Jellison (W. L.) 2071
Joe (L. K.) 2153
Johnson (C. Margaret C.) 2008
Jones (D. L.) 2054
Jones (G. E. S.) 2135
Jordan (F. T. W.) 2022
Joress (M. H.) 2100
Joyce (J. C.) 2032
Juarez (W. J.) 2070
Juhász (P.) 2187

Kabler (P. W.) 2003, 2073
Kada (T.) 1963
Kaden (R.) 1976, 1998
Kakoti (L. M.) 2157
Kaufman (S. F.) 2099
Kawakita (S.) 2108
Kawamori (Y.) 2120
Kernan (P.) 2087
Kirschstein (Ruth L.) 2025
Kitamura (T.) 1943
Knake (H. J.) 2011
Kneafsey (D.) 2032
Koelle (W. A.) 2136
Korth (Z. N.) 1973
Kuhlmann (Hermine) 1952
Kuhn (Beatrice H.) 2039
Kuprowski (M.) 2139
Kurogochi (Y.) 1943

Lacaz (C. da S.) 2060, 2084, 2156
Laluque (P.) 2080
Lange-Brock (T.) 2112
Langer (H.) 1932
Langmuir (A. D.) 2073
Lanterno (L.) 2033
Larroche (J. C.) 2137
Larsh (H. W.) 2073, 2075, 2090, 2091
La Touche (C. J.) 2162, 2169, 2170
Le Nouène, 2026
Lerner (A.) 2044
Levan (N. E.) 2069
Levin (E. J.) 2138
Lindeboom (G. A.) 2074, 2098
Litt (J. Z.) 2204
Little (G. N.) 2089
Littmann (M. L.) 1966, 2092
Liu (C. L.) 1978
Lobo (J.) 1995
London (I. D.) 2038
Loosli (C. G.) 2073
Ludwig (T. G.) 2009
Luger (A.) 2190
Luisi (A.) 2084
Lurie (H. I.) 1945
Lutz (A.) 2130
Lutz (W.) 2165

Macchi (A.) 2044
Macinnis (F. E.) 2101
MacKenna (R. M. B.) 1940
Macotela (E.) 2020, 2127
Maddy (K. T.) 2068
Maghenzani (P.) 2115
Mahlandt (B. G.) 2021
Mali (J. W. H.) 2173
Mallinckrodt-Haupt (A. S.) 2188
Mandoul (R.) 2033
Manocchio (I.) 2016
Manos (N. E.) 2073
Marcelou (U.) 2116
Marcus (S.) 1983
Mariat (F.) 1964, 2096
Marie (M.) 2010
Martin (D. S.) 2073
Marx (H.) 2141
Mattern (C. F. T.) 2073
Mayer (J. B.) 2125
McCaffrey (M. F.) 1979
McCuskey (M. C.) 2102
McGill (H. C.) 2154
McKinnon (A. S. M.) 1988
Mead (M.) 1979
Meleney (H. E.) 2073
Menges (R. W.) 1946, 2073, 2171
Merewether (R. E.) 1940
Merveille (P.) 2080, 2081
Metzler (D. F.) 2085, 2086
Meyer (Esther) 1941
Meyer-Rohn (J.) 2112
Miguens (M. P.) 2180
Minami (M.) 1943
Minty (C. C. J.) 1979
Miyasaki (F.) 2108
Miyasaki (T.) 2107
Molinari (R.) 1970
Monnet (P.) 2043
Monteiro (E. V. L.) 2060
Moore (Jane C.) 2068
Moore (M.) 1996
Mordaunt (Verna) 2089
Mota (A. R.) 2034
Mullet (S.) 2177
Muraoka (N.) 1963

INDEX OF AUTHORS (*continued*)

Murphy (J. D.) 2093
Myers (J. A.) 2087

Negroni (P.) 2160
Nejedly (R. F.) 2104
Netto (C. F.) 2156
Nickerson (W. J.) 2117
Nielson (Betty D.) 1983
Nobel (T. A.) 2030
Nordén (A.) 1975

O'Leary (D.) 2061
Olson (B. J.) 2073
Ordman (D.) 2031
Ortenzio (L. F.) 1965

Pace (H. R.) 2133
Pacosa (W.) 2097
Pappagianis (D.) 2062
Pastor (B. H.) 2136
Paulatou (M.) 2116
Peabody (J. W.) 2079, 2093
Peers (J. H.) 2065
Perez Cornejo (S.) 1974
Pfister (R.) 2166
Pine (L.) 2007
Pinetti (P.) 2184, 2186
Pingel (J. C.) 2200
Pinkerton (H. E.) 2073
Pintelon (L.) 2048
Pinto (D. O.) 2060
Piredda (A.) 2175
Plenert (W.) 2126
Plowright (W.) 2004
Pohan (A.) 2153
Polemann (G.) 1959, 2182, 2199
Potter (M. D.) 1944
Powell (E. P.) 2073
Prior (J. A.) 2073
Pulaski (E. J.) 2013

Rakich (Jennie H.) 2035
Ramachandran (K.) 2113
Rambo (Frances R.) 1983
Rangaswami (G.) 2146
Reed (R. E.) 2068
Reiter (C.) 2143
Reith (H.) 2200
Reynold (J.) 1973
Ricardi (E. A.) 1969
Ringrose (E. J.) 2015
Ritter (Cassandra) 2073, 2085, 2086
Rogachefsky 2204
Rogers (J. V.) 2050
Roos (G.) 2191
Rosenthal (S. A.) 2204
Röttger (H.) 2161
Roubenoff (D.) 2094
Rowley (D. A.) 2073
Ruehs (G.) 2002
Runyon (L. C.) 2073

Sabalitschka (T.) 2141
Sabin (A. B.) 2073
Saitō (G.) 1963
Sakai (S.) 1963
Salazar (E.) 2065
Salvin (S. B.) 1948, 2073
Sanderink (J. F. H.) 2173
Sarre (S. G.) 2065
Saslaw (S.) 2073, 2095, 2106
Satō (A.) 1963
Savage (L. J.) 2073
Schabinski (G.) 2111
Schaefer (J.) 2095, 2106
Schaffner (C. P.) 2146
Schantz (E. J.) 2189
Schantz (S. I.) 2133
Schatz (A.) 2001
Schatz (V.) 2001
Scherr (G. H.) 1973, 2144
Schirren (C.) 2200
Schmitz (H.) 1997
Schneierson (S. S.) 2073
Scholz (Ursula) 2141
Schubert (J. H.) 2073
Schwabe (C. W.) 1986
Schwarz (J.) 2073, 2094
Seabury (J. H.) 2093
Seeliger (H. P. R.) 1992, 1999, 2047
Segretain (G.) 2096
Sellers (K. C.) 1958, 2170
Sepulveda (G.) 2131
Shamir (A.) 2030
Sherman (I. C.) 2049
Sidransky (H.) 2025
Silberg (S. L.) 2090, 2091
Silva (Margarita) 1977
Silva (M. S.) 2208
Simuangco (S. A.) 2167
Sinclair (W. B. V.) 2170
Sinskey (R. M.) 2037
Sirvén (R. H.) 2044
Skinner (C. E.) 2176
Skobel (P.) 2111
Sladen (W. J. L.) 2023
Smith (C. E.) 2062, 2063, 2073
Smith (D. T.) 1981, 2000
Smith (L. M.) 1971
Smith (R. T.) 2078
Snapper (I.) 2073
Sotgiu (G.) 2082
Spada (C.) 2184, 2185
Staib (F.) 2123
Stankaitis (J.) 2102
Stenderup (A.) 2119
Sterman (L.) 2060
Stevenson (J. W.) 2008
Stilinović (Z.) 2150
Stonerod (M. H.) 2109
Stuart (E. A.) 2028
Stuart (L. S.) 1965
Suter (L. S.) 2006
Sutliff (W. D.) 2035
Svatek (Z.) 2205
Swartz (H. E.) 1961
Symmers (W. St. C.) 2083, 2103

Taber (W. A.) 2117
Taylor (E. P.) 1944
Telner (P.) 1962
Tenenberg (D. J.) 2073
Thomas (P. A.) 2013
Thornell (W. C.) 2036
Thys (A.) 2158
Tobias (N.) 1934
Torheim (B. J.) 2194
Tóth (G.) 2051
Trelawny (G. S.) 2001
Trichereau (R.) 2052
Triglianos (A.) 1994
Trimble (J. R.) 2066
Tritsmans (E.) 2201
Trotter (M. D.) 1949
Tsuchiya (T.) 2107, 2108

Ueda (Y.) 1943
Underwood (P. C.) 2145
Uri (J.) 2187

Vanbreuseghem (R.) 1985, 1990, 2158, 2159, 2195, 2196, 2201
Van der Meulen (H.) 2153
Van Wymeersch (H.) 2195
Vertinsky (K. I.) 2155
Vieu (M.) 1964

Waksman (S. A.) 2146
Walker (Jacqueline) 1956
Walker (T. K.) 2113
Walther (H.) 1972, 2192
Ward (J. M.) 2073
Warren (Clara M.) 2206
Wayne (L. G.) 2070
Ways (P.) 2077
Webster (B. H.) 2012
Wellens (W.) 2196
Willis (M. J.) 2073
Windisch (S.) 2123
Winner (H. I.) 2110
Winter (W. J.) 2124
Witt (O.) 2017
Witz (Mme M.-A.) 2130
Wood (J. L.) 2135
Woodside (R.) 1997
Workman (W. G.) 2073
Wu-Fei (C.) 2045

Zeidberg (L. D.) 2073
Zeiss (K. H.) 2011
Zimmerman (H. E.) 2145
Zweiling (G.) 1939

SUBJECT INDEX

Actinomycosis, 1940, 1966, 1982, 1986, 1992–4, 2004–20, 2106, 2165
Air, fungi in the, 2031
Aleurisma, 2191
Allergic diseases, 2031–3
Allescheria boydii, 2003
Antagonism between fungi, 2185, 2187–8
Antibiotics as predisposing cause of mycosis, 1985, 2025, 2028, 2044, 2046, 2124, 2140
Antibiotics in treatment of mycosis, 1973, 2010–11, 2013, 2017–18, 2048, 2051, 2105, 2127–8, 2131–3, 2140, 2146, 2151
Antibiotics possessing antifungal activity in vitro, 1983, 2019, 2130
Aspergillosis, 1988–9, 1992–4, 2003, 2021–30, 2106
Basidiobolus, 2153
Blastomycosis (N. Amer.), 1940, 1966, 1980, 1982, 1986–7, 1993–4, 1996, 2034–9, 2088
Blastomycosis (S. Amer.), 1994–6, 2002, 2057, 2059, 2084
Chromoblastomycosis, 2167
Cladosporium infection, 2154
Coccidioidomycosis, 1940, 1980, 1982, 1986–7, 1993, 1995, 2061–70, 2082
Compounds with antifungal action, 1937, 1944, 1963, 1997, 2001–2, 2053–4, 2106, 2141
Cultural studies of pathogenic fungi, 1961, 1998, 2112–14, 2116, 2179–81, 2184
Dermatophytes, 1932–74, 1988–9, 2106, 2152, 2161–2202
Epidermophyton, 1940, 1960, 1971, 2166–7, 2180, 2185–6, 2200–1
Equine epizootic lymphangitis, 2055
Fungicides, 1934, 1938–9, 1943, 1953, 1965, 1971–3, 1978, 1980, 2011–13, 2015, 2028, 2036, 2038–9, 2049, 2052, 2104, 2142, 2150, 2192, 2202–3
General, 1980–2003, 2125, 2165
Geotrichosis, 1983, 1997, 2003, 2205
Haplosporangiosis, 1994, 2071–2
Histoplasmosis, 1945, 1966, 1980, 1982–3, 1986–8, 1993, 1996, 2002, 2073–106
Keratinomyces, 2196
Lobo's disease, 1995, 2056, 2058, 2060
Madura foot, see Mycetoma
Malassezia furfur, 1960, 1989
Microsporum, 1932–7, 1943–4, 1954, 1960, 1966, 2106, 2152, 2162, 2166–9, 2171–3, 2175, 2182, 2185–6, 2188, 2206–7
Moniliasis, 1940, 1944, 1951–2, 1963–4, 1966, 1980, 1982–3, 1991–4, 1997–8, 2107–46, 2167, 2190, 2205
Mucormycosis, 1986, 2024, 2147–9
Mycetoma, 2156–7, 2159–60, 2167
Mycoses of animals (experimental), 1958–9, 1967, 1978, 2042, 2063, 2073–6, 2081, 2091, 2094–5, 2098, 2106, 2118–19, 2128, 2144, 2146, 2170
Mycoses of animals (spontaneous), 1936, 1946–8, 1954, 1956–7, 1974, 1986–8, 2004, 2022–4, 2026, 2029–30, 2046, 2068–9, 2071–2, 2084, 2096, 2139, 2145, 2150, 2155, 2162, 2168–9, 2171–4
Nocardial myectoma, 2015, 2020, 2158, 2167
Peyronellaea, 2151
Physiology of fungus pathogens, 2182
Pityrosporum, 1991
Rhinosporidiosis, 2167
Rhodotorula, 1968–9, 1991, 2047, 2176, 2190
Saccharomycopsis, 2150
Scopulariopsis, 2106, 2200
Soil, fungi in the, 1945, 1956, 2008, 2035, 2041, 2068, 2073, 2075–6, 2091
Sporotrichosis, 1940, 1966, 1975–9, 1982–3, 1996, 2205
Technique, 1941, 1950, 1975–6, 1980, 1983, 1992, 1996, 2006–7, 2042, 2047, 2055, 2057, 2060, 2070, 2073, 2086, 2088, 2090, 2092–3, 2107–11, 2179, 2181, 2183, 2193–5, 2197
Torulosis, 1966, 1982–3, 1987, 1991, 1994–6, 2040–54
Trichophyton, 1934–5, 1940, 1943–67, 1970, 1972, 1974, 1988–9, 1998, 2106, 2161, 2166–7, 2169, 2174–5, 2177–81, 2183–8, 2197, 2200–1, 2203–7
Yeast-like fungi, 1968–9, 2047, 2130, 2155, 2200
Yeast-like phases of pathogenic fungi, 1979, 1996, 2073, 2090, 2117–18

ERRATA

Vol. 2, Part 5, Abstract No. 1068, line 1, *for* 'Segretan' *read* 'Segretain'.

Vol. 2, Part 8, Abstract No. 1913, line 11, *for* 'betyi' *read* 'lutzi'.

PRINTED IN GREAT BRITAIN AT THE UNIVERSITY PRESS, OXFORD
BY CHARLES BATEY, PRINTER TO THE UNIVERSITY

Volume II *Part 10*

REVIEW OF MEDICAL AND VETERINARY MYCOLOGY

Edited by

J. C. F. HOPKINS, D.Sc., A.I.C.T.A.
DIRECTOR, COMMONWEALTH MYCOLOGICAL INSTITUTE

in collaboration with

CHARLES WILCOCKS, C.M.G., M.D., F.R.C.P., D.T.M. & H.
DIRECTOR, BUREAU OF HYGIENE AND TROPICAL DISEASES

J. T. DUNCAN, F.R.C.S., L.R.C.P. (IRE.), D.T.M. & H.
LATELY DIRECTOR OF MEDICAL MYCOLOGY, LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE

and

M. CRAWFORD, M.R.C.V.S.
DIRECTOR, COMMONWEALTH BUREAU OF ANIMAL HEALTH

THE COMMONWEALTH MYCOLOGICAL INSTITUTE
KEW, SURREY

Price 12*s.* 6*d.* ($1.75) *net, post free*

1957

NOTICE

THE literature on medical and veterinary mycology is widely scattered and frequently difficult to consult. Certain aspects of the subject are covered by various abstracting journals, but no journal covers them all. For over twenty years the *Review of Applied Mycology* abstracted papers dealing chiefly with mycological aspects and the *Bulletin of Hygiene* and the *Tropical Diseases Bulletin* still review selected papers from the medical point of view, as does the *Veterinary Bulletin* from the veterinary, but this journal aims at surveying the whole of this rapidly expanding field. An attempt is made to notice all important papers on all aspects of medical and veterinary mycology.

Formerly known as the *Annotated Bibliography of Medical Mycology*, the journal was renamed the *Review of Medical and Veterinary Mycology* in 1951.

The subscription for 1957 is 20*s*. ($ 2.80) that for 1958 will be 25*s*. ($ 3.50) payable in advance. Back volumes can be supplied as follows: Vol. I (1943–53) (12 parts and index) £7. 10*s*. ($ 21.00), Vol. II (1953–57) (10 parts) £6. 5*s*. ($ 17.50); single parts are available as follows: Vol. I, parts 1–8, 10*s*. ($ 1.40) each, all subsequent parts 12*s*. 6*d*. ($ 1.75) each; Index to Vol. I, 20*s*. ($ 2.80).

Authors are requested to assist in the work by sending reprints of their papers as soon as possible after publication to the Director, Commonwealth Mycological Institute, Kew, Surrey, to whom orders and correspondence, respecting the *Review* should be addressed.

This issue completes Volume II (1953–57), *for which a Cumulative Index is being prepared. Beginning with Volume* III, *this* Review *will be issued as quarterly parts* (*in March, June, September, and December*). *Annual subscription* 25*s*. ($ 3.50), *post free, payable in advance.* (*Single parts* 7*s*. 6*d*. ($ 1.05), *post free*).

INDEX OF AUTHORS

Aboulafia, 2340
Achten, 2277, 2323
Adriano, 2450
Ainsworth, 2243
Ajello, 2270
Allison, 2281
Almeida, 2231
Alznauer, 2419
Andersen (H. A.) 2264
Andersen (H. C.) 2357
Andleigh, 2346, 2347
André, 2452
Antunes, 2269
Arnott, 2388
Arora, 2410
Artagaveytia-Allende, 2386
Astley, 2392
Ausherman, 2363

Baer, 2280, 2304, 2307
Baggenstoss, 2264
Baker (O.) 2413
Baker (R. D.) 2462
Bakerspigel, 2439,
Ballenger, 2262
Barlow, 2289
Barnes, 2228
Barontini, 2259
Bates, 2258
Batista, 2229
Baum, 2249
Beeckmans, 2345
Beer, 2432
Benchakan, 2396
Beneke, 2242
Benham, 2311
Bereston, 2406
Blanco, 2265
Biguet, 2209
Bittencourt, 2397
Blaxland, 2338
Borgen, 2420
Borelli, 2248
Borok, 2455
Bosch, 2282
Boudet, 2282
Brady, 2325
Brasher, 2442, 2458
Braude, 2413
Braun, 2326
Bravo, 2246
Bromley, 2333
Brown (A. S.) 2324
Brown (Rachel) 2253
Buckingham, 2458
Buckle, 2429

Camain, 2344
Camara (A.) 2397
Camara (H. A.) 2436
Campos, 2229
Carnaghan, 2338
Caroline, 2361
Caron, 2224
Carter, 2316
Carpenter, 2373, 2378
Castellani, 2341
Castillo, 2230
Cawley, 2365
Charbonneau, 2211
Charton, 2336
Chattaway, 2289
Chorazak, 2302
Chu, 2430
Ciferri, 2229
Cochet, 2209
Cohn, 2433
Cole, 2460
Cordy, 2423
Cottier, 2432
Coudert, 2287
Coutelen, 2209
Covert, 2400
Creitz, 2414
Cronin, 2372
Cruickshank, 2258
Csillag, 2370, 2390
Curtis, 2429

Dawe, 2233
Dawkins, 2398
Dawson, 2276
Dean, 2456
Deblock, 2209
Decarie, 2260
De Castro, 2458
De Silva, 2341
Dey, 2352
Di Bella, 2377
Di Menna, 2428
Dingle, 2449
Doby-Dubois, 2209
Docekal, 2305
Doepfmer, 2385
Dostrovsky, 2309
Doupagne, 2298
Draganos, 2355
Dressler, 2433
Drieux, 2437
Drouhet, 2251, 2374, 2383
Dubois, 2445
Dukes, 2368
Duperrat, 2453
Durie, 2283
Durieux, 2336

Edwards, 2398
Ehrlich, 2234
Einstein, 2422
Emmons (C. W.) 2238
Emmons (L. L.) 2418
English, 2296, 2322
Enjalbert, 2359
Ercoli, 2225
Eyckmans, 2407

Fahlberg, 2368
Fain, 2464
Farina, 2354
Faust, 2226
Fegeler, 2294
Feller, 2449
Fernandes, 2231
Fischer, 2459
Fish, 2459
Fissel, 2454
Floch, 2452
Florsheim, 2232
Ford, 2329
Forster (J.) 2331
Forster (R. A.) 2237
Fosnaugh, 2219
Fostvedt, 2418
Frágner, 2222, 2404
Franks, 2312, 2321
Freedman, 2318
Frey, 2283
Friedman (J.) 2381
Friedman (Lorraine) 2416
Fries, 2284
Fuentes, 2282, 2340
Furcolow, 2442, 2449

Gade, 2215
Garb, 2417
Gass, 2457
Gay Prieto, 2317
Geaney, 2431
Gentles, 2276, 2301, 2303, 2335
Georg, 2218, 2219, 2270, 2292, 2328, 2332, 2333, 2334, 2339
Gerber, 2228
Gerloczy, 2389
Gilmer, 2365
Gitter, 2338
Goldman, 2275, 2364
Goldring, 2262
Good, 2264
Gordon, 2348
Gould (W.) 2300
Gould (W. L.) 2308
Graham, 2408
Gray, 2325
Gready, 2394
Grimmer, 2278, 2291
Guilhon, 2336
Guthrie, 2368

Hakendorf, 2295
Halde, 2216, 2313, 2351
Hall, 2299
Halloran, 2241
Hamilton, 2227, 2319
Hand, 2292
Harris, 2388
Haseeb, 2349
Hasenclever, 2402
Hawley, 2362
Hayes, 2263
Hazen, 2253
Helms, 2387
Hengerer, 2400
Henry (B. S.) 2415
Henry (J. F.) 2358
Herin, 2464
Heymer, 2385
Hexter, 2324
Higdon, 2409
Hoigné, 2432
Hok, 2319
Holmes, 2301
Hopper, 2279
Horsfall, 2431
Hottinger, 2391
Howell, 2255
Hübschmann, 2404
Hugenholtz, 2421
Huppert, 2252
Hutcheson, 2457

Ingram, 2297

Jackson, 2240
Jalandoni, 2401
Jansen, 2266
Jaqueti Del Pozo, 2317
Jennison, 2399
Johnson, 2265
Johnstone, 2285
Joseph, 2216
Jules, 2226

Kaden, 2235
Kaess, 2353
Kakoti, 2352
Kamiénski, 2302
Kaplan, 2219, 2333, 2334
Kapustin, 2244
Karnauchow, 2240
Kass, 2433
Kaye, 2455
Keddie, 2324
Kesten, 2311
Kihlberg, 2284
Kingston, 2418
Kirk, 2247
Knight, 2366
Komins, 2455
Koroleva, 2244
Krasner, 2375
Krauskopf, 2222
Kuhn, 2214, 2327
Kvashnina, 2244

Labie, 2437
Lacaz, 2231
Lang, 2396
Langhof, 2310
Langmuir, 2449
Lapis, 2360
Larsh, 2442, 2449
La Touche, 2285, 2297
Lauze, 2260
Lehan, 2442
Leinbrock, 2212
Lepow, 2430
Levan, 2422
Levy-Lebhar (G.) 2273
Levy-Lebhar (J. P.) 2273
Lewis, 2279
Lexow, 2420
Librach, 2356
Licks, 2290
Lienthal, 2388
Litt, 2280, 2307
Llywelyn-Jones, 2399
Lurie, 2272, 2318, 2455
Lyck, 2213

McGrath, 2424
McKee, 2402
Mackinnon, 2386
McPherson, 2330, 2337
Mariat, 2257, 2437
Marples, 2428
Martin, 2265, 2435
Meenan, 2315
Mehnert, 2384
Menges (R. A.) 2292
Menges (R. W.) 2328, 2332, 2334, 2339
Menu, 2447
Merriweather, 2318
Miller, 2417
Mizuta (M.) 2403
Mizuta (W.) 2403
Morales, 2342
Moran, 2372
Morgan (H. V.) 2247, 2349
Morgan (R. J.) 2314
Mornet, 2268
Morquer, 2359
Mullet, 2209
Mullins, 2293
Murphy, 2380
Murray, 2318, 2455
Muskatblit, 2286

Nanda, 2433
Neill, 2230
Neilson, 2431
Neto, 2463
Nichols, 2265, 2435
Nieman, 2319
Nilssen, 2412
Ninane, 2345

Oakes, 2363
O'Hern, 2415
Ost, 2395
O'Sullivan, 2335

Panetsos, 2355
Papineau, 2260
Paraf, 2437
Parrott, 2451
Patterson, 2379
Pelson, 2362
Peña Yañez, 2317
Petty, 2392
Piantoni, 2254, 2427
Pierce, 2419
Pilcher, 2227, 2319
Pine, 2255
Pinkerton, 2293, 2343, 2379
Pinkes, 2230
Pinney, 2434
Pohowalla, 2410
Polk, 2458
Poston, 2451
Prinsley, 2261
Procknow, 2446
Pruniéras, 2287
Pullar, 2428
Pundel, 2395

Quittè, 2256

Raquet, 2210, 2211
Raubitschek, 2309
Reberger, 2353
Reid, 2316
Reiss, 2361
Revil, 2447
Ribi, 2443
Richard, 2411
Riddell, 2398
Rimbaud, 2224
Rioux, 2224
Ritchie, 2343
Roberts, 2334
Rodda, 2428
Rogachefsky, 2280, 2307
Rolle, 2419
Ronchese, 2271
Rosenthal, 2280, 2307
Roth, 2380, 2381
Rubenstein, 2430

INDEX OF AUTHORS (*continued*)

Sági, 2360
Sah Yun, 2226
Salazar Leite, 2269
Salvin, 2443
Samel, 2223
Sampaio, 2231
Sarkisov, 2244, 2245
Sautter, 2358
Sawicky, 2321
Schardt, 2263
Scherr, 2382
Schmidt, 2389
Schofield, 2462
Scholz, 2389
Schroder, 2459
Schulz, 2267
Schwartz, 2300
Schwarz, 2249, 2364, 2425, 2448, 2450
Seeliger, 2236
Ségretain, 2437
Serviansky, 2448
Shandra, 2430
Shapiro, 2293
Shintani, 2232
Silva, 2311, 2350
Silverman, 2450
Simonnet, 2383
Simuangco, 2313, 2351
Singh, 2410
Sirtori, 2427
Slade, 2349
Sloss, 2353
Smellie, 2392
Smith (C. E.) 2416
Smith (D. T.) 2250, 2451
Smith (W. W.) 2339
Snijders, 2266
Sorensen, 2440
Spada, 2217
Starr, 2233
Steele, 2358
Stella, 2396
Stenderup, 2357
Sternberg, 2408
Stewart, 2405
Straub, 2425
Stubbs, 2225
Sutton, 2363
Syverton, 2381

Tarlatzis, 2355
Taschdjian, 2286, 2312, 2321, 2367
Taylor, 2451
Tevis, 2438
Théron, 2437
Thiery, 2268
Thompson, 2289
Tichacek, 2305
Tôjyô, 2403
Torres, 2218
Tyler, 2426

Umnova, 2288
Unsworth, 2263

Vanbreuseghem, 2323, 2407, 2445
Vandepitte, 2345
Van der Meiren, 2323
Verge, 2437
Vieu, 2374
Vince, 2390
Vogel, 2376
Volini, 2225
Voller, 2418
Vrtiak, 2221

Waisman, 2393
Walls, 2441
Walz, 2402
Watson, 2461
Way, 2272, 2455
Weed, 2233, 2264
Weidman, 2365
Weigl, 2302
Weinberg, 2401
Weiner, 2320
Widra, 2369
Willis, 2428
Wilson (J. W.) 2232, 2365
Wilson (W. W.) 2366
Winsten, 2371
Wissel, 2306
Wolff, 2392
Wright, 2408
Wüstenberg, 2274

Young (Augusta M.) 2220
Young (Genevieve) 2375
Yudkofsky, 2375

Zander, 2259
Zapletal, 2221
Zeidberg, 2457
Zimmerman, 2444

SUBJECT INDEX

Actinomycosis, 2249, 2255–68
Air, fungi in the, 2272
Allescheria boydii, 2348
Antibiotics as predisposing cause of mycoses, 2240, 2383, 2387–91, 2395–6, 2403, 2405
Antibiotics in treatment of mycoses, 2251, 2253, 2259–61, 2263, 2349, 2379, 2391, 2396, 2399, 2406–11, 2432
Aspergillosis, 2355–60

Blastomycosis (N. Amer.), 2233, 2248–9, 2362–6
Blastomycosis (S. Amer.), 2248, 2463

Chromoblastomycosis, 2248–9, 2350–4
Cladosporium infection, 2248, 2293, 2341–3
Coccidioidomycosis, 2233, 2248–9, 2412–25
Compounds with antifungal action, 2224–6, 2228, 2251–2, 2257, 2289, 2319, 2347, 2361, 2372
Cortisone, 2254, 2360, 2381–2, 2422, 2454, 2460
Cultural studies of pathogenic fungi, 2294, 2367–8, 2414, 2445
Dermatophytes, 2209–27, 2269–343

Epidermophyton, 2213, 2224, 2291, 2293–4, 2297–9, 2302, 2307, 2324–5

Fungicides, 2211–14, 2223, 2227, 2260, 2263, 2274, 2278, 2295, 2300, 2305, 2308, 2311, 2324, 2327, 2331, 2351, 2355–6, 2366, 2391–2, 2394, 2399, 2418, 2429, 2433, 2437

General, 2242–3, 2246–51
Geotrichosis, 2293

Haplosporangiosis, 2438–9
Histoplasmosis, 2233, 2248, 2440–60

Keratinomyces, 2283

Madura foot, see Mycetoma
Malassezia furfur, 2324
Microsporum, 2212, 2214–5, 2219–20, 2225–8, 2281–83, 2285–6, 2290, 2292–3, 2297, 2312, 2314–7, 2319, 2323, 2325–6, 2328, 2332–3, 2339
Moniliasis, 2224–6, 2290, 2299, 2302, 2324, 2367–411
Mucormycosis, 2240, 2461–2
Mycetoma, 2344–9
Mycoses of animals (experimental), 2232, 2254, 2263, 2272, 2278, 2329, 2331, 2334, 2359, 2379, 2381–3, 2416, 2427, 2462
Mycoses of animals (spontaneous), 2218–22, 2238–9, 2241, 2244, 2266–8, 2333, 2335–40, 2358, 2360, 2363, 2423–5, 2436–9, 2450, 2459–60, 2466
Mycotoxicosis, 2245

Nocardial mycetoma, 2344

Phialophora, 2350–4
Physiology of fungus pathogens, 2284–5, 2287, 2289, 2348, 2350, 2371, 2374–5, 2378, 2413, 2415–6

Rhinosporidiosis, 2466
Rhodotorula, 2293

Soil, fungi in the, 2272, 2281–3
Sporotrichosis, 2230–3, 2249

Technique, 2233–7, 2246, 2269–71, 2273–7, 2344, 2367–9, 2400–1, 2423, 2426, 2444
Torulosis, 2224, 2233, 2248, 2402, 2426–37
Trichophyton, 2209–10, 2212, 2216–8, 2221–8, 2269–70, 2272, 2274, 2276, 2278, 2284, 2288, 2290–9, 2301–2, 2306–8, 2310–3, 2315–8, 2320–2, 2324–7, 2328–32, 2334–40

Yeast-like fungi, 2370, 2384

ERRATUM

Vol. II, Part 7, p. 322, Abs. 1486, last line, for *Blastomyces dermatitidis* read *Candida albicans*

© *Commonwealth Agricultural Bureaux, 1957*

PRINTED IN GREAT BRITAIN AT THE UNIVERSITY PRESS, OXFORD
BY CHARLES BATEY, PRINTER TO THE UNIVERSITY

Volume II *Cumulative Index, 1953–57*

REVIEW OF MEDICAL AND VETERINARY MYCOLOGY

Edited by

J. C. F. HOPKINS, D.Sc., A.I.C.T.A.
DIRECTOR, COMMONWEALTH MYCOLOGICAL INSTITUTE

in collaboration with

CHARLES WILCOCKS, M.D., F.R.C.P., D.T.M. & H.
DIRECTOR, BUREAU OF HYGIENE AND TROPICAL DISEASES

†J. T. DUNCAN, F.R.C.S., L.R.C.P.(IRE.), D.T.M. & H.
LATELY DIRECTOR OF MEDICAL MYCOLOGY, LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE

and

M. CRAWFORD, M.R.C.V.S.
DIRECTOR, COMMONWEALTH BUREAU OF ANIMAL HEALTH

COMMONWEALTH MYCOLOGICAL INSTITUTE
KEW, SURREY

Price 25s. net post free

1959